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Inside Dope

By GEORGE F. TAUBENECK

Learn to live and laugh — thus delay your epitaph

Stories of the Week
What Did He Say?
How a Good Salesman Operates
The Seller's Soliloquy
Verses of the Week
Good Puzzle
Out of Our Mailbag

Stories of the Week

"What? You don't sell used cars?

"Get with it, man. What kind of a drugstore have you here, anyway?"

"I don't care what they say about an elephant's memory," groaned a headachy pachyderm to his mate.

"I can't remember a thing about last night."

In search of new jungle rhythms, two jazz musicians landed in North Africa. One of the first sights to confront them: French soldiers flogging an Algerian rebel.

"I dig the beat," hummed one, "but what a *crazy* drum."

For fixing things around the house, nothing beats a man who's handy with a checkbook.

When Wilson Mizner was running a saloon in Alaska, one of his customers shot another cold stone daid.

"Why did you?" Mizner accused.

"He insulted my gal, Sal."

"Sal? How could anyone insult her?"

What Did He Say?

Not long ago we attended a press conference, sponsored by the Hotpoint people, which featured Dr. Ernest Dichter. The latter, as you no doubt know, is the Dean of Motivational Research.

MR, for those who came in late, is a psychological probing of consumers' subconscious minds. Object: to find the real reasons why they buy, or don't buy, something or other.

In concert with practically all the other reporters who listened to Dr. Dichter, we felt a kinship with Calvin Coolidge.

Cal, you may recall, attended church alone one Sunday. When he returned to the White House, his wife queried:

"What was the preacher's topic today?"

Coolidge's classic response:

"He didn't say."

Two "quotes" we do recall, however, from the eminent com-

(Concluded on Page 8, Col. 1)

Typhoon Bows 75-Ton Factory Heat Pump

MIAMI, Fla.—Some 200 dealers, sales representatives, and utility executives attending the seventh annual heat pump school held recently at the McAllister hotel under sponsorship of Typhoon Heat Pump Co., Tampa division of Hupp Corp., viewed the firm's 1959 line.

The new models include four types—air-to-air, water-to-air, water-to-water, air-to-water and water chillers in sizes from 2 to 75 tons.

Water-to-air: The new A-H line includes sizes from 2½ to 7½ tons, featuring both single and split units. The later has a compact remote compressor section, the 6-ton model, for example, requiring only 26 by 26 in. of space, the company said. The hermetic line includes models from 2½ to 12 tons.

The heavy-duty series features models from 10 to 45 tons, and all models use corrosion-proof "Admiralty" metal condensers.

Air-to-air: An expanded line including 3, 5, 7½, 10, 15, 20, 25, and 30-hp. units. All models are split and feature simplified low voltage controls and proven defrost systems, it was stated.

Water-to-water: Models from 2 to 75 tons. "The latter model is the first factory heat pump package to produce 1,000,000 B.t.u./hr. of heat," the manufacturer claims.

Water chillers: The company said it is offering a complete line of factory assembled water

(Concluded on Page 4, Col. 4)

Another 'Bid-Shop' Bill Introduced In 86th Congress

WASHINGTON, D. C. — Another "bid-shopping" bill, H.R. 176, said to be identical to H.R. 7168 which failed to pass in the 85th Congress, has been tossed in the legislative hopper of the 86th Congress by Congressman Thomas J. Lane (D., Mass.).

The bill has been referred to the House Committee on the Judiciary, of which Congressman Emanuel Celler (D., N. Y.) is chairman.

Commenting on this measure in a recent bulletin, the National Association of Plumbing Contractors said:

"All four of the controversial features of H.R. 7168 are present in H.R. 176. Opponents of H.R. 7168 have listed them as follows:

"1. The bill unwisely establishes a single contract system for Federal construction.

"2. The bill encourages rather than prevents 'bid-shopping' and 'bid peddling' during at least seven days after gen-

(Concluded on Page 25, Col. 3)

Jurisdictional Feuds May Be Eased by Pact

DETROIT — A jurisdictional agreement signed recently by the Detroit Building Trades Council and the United Automobile Workers has raised hopes that it might set a pattern for a national peace formula in the bitter feud between craft and industrial unions that has threatened to split the AFL-CIO.

The agreement is effective March 1, 1959. It provides a "sensible and workable basis" for solving the jurisdictional disputes stemming from new construction or alteration within Detroit-area auto plants. The Detroit Building Trades Council embraces Wayne, Oakland, and Macomb counties.

The UAW and the council agreed that production and maintenance work shall be done

(Concluded on Page 25, Col. 4)

Show Draws Big Crowds; ASHAE OK's Dallas Show

* * *

ASHAE Changes Meeting Plans, OKs Dallas Show

PHILADELPHIA — Several changes in meeting plans for the American Society of Heating & Air-Conditioning Engineers, and a full go-ahead on plans for a regional exposition to be held Feb. 1-4, 1960, in Dallas, were made known following an ASHAE Council meeting here early last week.

The meeting of the society which was to be held in Vancouver, B. C., Can. June 7-11 of this year has been postponed.

The annual meeting of the society (which is expected to be the American Society of Heating, Refrigerating & Air Conditioning Engineers by that time, through approval of the

(Concluded on Page 25, Col. 3)

Smaller Equipment Trend Apparent

PHILADELPHIA — Despite some blizzardy weather which slowed all transportation into this city, the 14th International Heating & Air Conditioning Exposition here last week drew crowds of industry members which in the early stages of the show threatened the attendance marks of the last show, which was held in Chicago.

Photographic coverage of the new products introduced at the Exposition, together with stories on new lines and other news that developed at the Show, will be published in succeeding issues of the NEWS.

Some entire new lines of equipment were being introduced, and many new and added models of unitary equipment and components.

1. A continuing trend to smaller, more compact equipment. This has resulted in part from improved design changes, in both unitary equipment and components, and also through such things as high-speed refrigeration compressors.

2. More "engineering at the factory, and less in the field" in the design of unitary equipment. This has come about through pre-wiring, pre-charging, and other factory assembly methods, which were once carried out in the field.

3. A general upgrading of the quality of many types of products, a trend away from the drive of a few years ago to reduce price at all costs.

4. Somewhat generally more complicated control systems, designed, however, to simplify operations by the user or operator of systems.

5. More emphasis on design factors that will create more optimum all-around conditions (in terms of relative humidity and air movement, particularly) for users of modern air conditioning systems.

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Frick Rejects Offer To Sell or Merge

WAYNESBORO, Pa. — Frick Co. announced that it has rejected the offers made recently to sell or merge the company with another firm.

The other firm was not identified in the announcement.

D. Norris Benedict, president and general manager of Frick, reported that the Frick board of directors, meeting in a special session, had resolved to break off the negotiations.

The resolution said "it has been found that the proposal made by a responsible corporation looking to the eventual ownership and control of Frick Co. cannot be carried out due to unavoidable tax and other incidental problems which have

(Concluded on Page 25, Col. 5)

Hotpoint Announces $7.6 Million Program

LAS VEGAS, Nev. — A $7.6 million investment program calling for new tools, new equipment, and rearrangement of in-plant facilities was announced by Hotpoint.

The program was announced here to 350 dealers, winners in the annual "Mr. Hotpoint of America" contest.

The manufacturer said the new investment program, which will begin immediately, expends $5.6 million in the refrigeration facility and $2 million in the home laundry facility.

In expanding the plans for the refrigeration facility, O. E. Wolf, general manager, refrigeration department, said the funds will allow Hotpoint to

(Concluded on Page 4, Col. 4)

Scotsman Shows '59 Ice Makers, Vendor

ALBERT LEA, Minn.—New products introduced at recent "Scotsman" sales meetings included a small "Super Cuber," a small "Super Flaker," and a coin-operated ice vending machine.

The new ice vending machine is "the first machine manufactured that makes its own ice as well as dispensing it in bagged form for public use," according to Scotsman, Queen Products Div., King-Seeley Corp.

"The machine is an outdoor

(Concluded on Page 25, Col. 1)

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Carnes Purchases Senrac Industries

VERONA, Wis. — Carnes Corp. here has announced the acquisition of the assets of Senrac Industries, Madison, Wis.

Senrac manufactures louvers and dampers for commercial, industrial, public, and institutional buildings.

R. W. Krogstad, executive vice president-general manager of Carnes, said Senrac's line makes a natural addition to the existing Carnes' lines, and will substantially broaden the line of equipment which Carnes will be able to offer to the trade.

Carnes, a wholly-owned subsidiary of Wehr Steel Co., Milwaukee, is a manufacturer of diffusers, registers and grilles, and roof ventilators and sells to the same market as Senrac. The Senrac operation will be moved immediately into the newly-expanded plant facilities at Carnes.

"The expansion of equipment and building facilities which Carnes has just completed gives Carnes 65% more manufacturing capacity than they had previously," it was stated. "This expansion has been necessary due to the excellent reception of Carnes' products in the trade, which has been reflected in a 30% increase in sales in 1958 over 1957."

Purchase price of the acquisition was not disclosed in the announcement.

Carrier Dividends

NEW YORK CITY—Quarterly dividends of 40 cents per share on the common stock, 56¼ cents on the 4½% preferred stock, and 60 cents on the 4.8% preferred stock were declared recently by the board of directors of Carrier Corp.

Green Fuel Economizer Acquires Bayley Blower

MILWAUKEE — Bayley Blower Co. here, designer and manufacturer of industrial and ventilating fans, humidifiers, and heating coils since 1856, has been acquired by Green Fuel Economizer Co., Inc., Beacon, N. Y.

Green, founded in 1875, designs and manufactures cast iron fuel economizers, heavy-duty fans, air filters, and industrial heat collecting systems.

The two companies will complement each other to produce a complete range of air-moving equipment, the announcement said.

Frank J. Hamilton, formerly general manager, has been elected president of Bayley Blower, succeeding George E. Szekely, who has recently resigned.

October Compressor Shipments 14% Ahead of Same Month In 1957

WASHINGTON, D. C.—Manufacturers' shipments of compressor bodies in October 1958 were almost 14% ahead of shipments for the previous October, it was reported recently by the Small Compressor Section of Air-Conditioning & Refrigeration Institute.

It was the third consecutive 1958 month in which shipments ran ahead of the corresponding month the year before. During the first seven months of 1958, manufacturers' shipments were considerably below 1957, according to the report.

However, increases noted in August, September, and October, brought the 1958 year-to-date figure up to 3,045,847 units for 10 months, a little more than 13% below the 10-month figure of 3,536,363 set during 1957.

October 1958 shipments were 230,329 units, compared with 202,192 in the previous October.

Shipment figures for the various size categories, and names of reporting companies, are listed below:

MANUFACTURERS' SHIPMENTS OF COMPRESSOR BODIES PRODUCED BY REPORTING COMPANIES

(Except for household refrigerators) Shipments Including Exports

*Horsepower	Oct., 1958	†Jan.-Oct., 1958	Jan.-Oct., 1957
⅛ & under	115,097	993,778	362,866
¼			668,294
⅓	20,522	188,843	211,580
½	7,324	167,728	90,573
¾	3,598	62,705	354,754
1	35,166	614,624	814,600
1½	5,802	214,182	208,418
2	6,417	240,831	194,594
3	6,427	92,486	88,961
5	3,879	59,586	65,438
7½	1,860	29,108	39,038
10	705	8,876	9,076
15	311	3,995	3,182
20	203	1,698	1,941
25	221	1,716	1,641
30	263	1,707	
40	251	1,751	
50	142	1,202	‡6,292
60	117	878	
75	64	597	
100 & over	51	383	
Total	**206,420**	**2,686,674**	**3,121,248**
For Auto a-c — Total	21,754	357,745	413,800
For ammonia — Total	155	1,428	1,315
Grand Total	**230,329**	**3,045,847**	**3,536,363**

*For all refrigerants **except** ammonia (excluding units for automotive air conditioning).

†Includes revised data reported to ARI.

‡Breakdown of 30 hp. & over not available for 1957.

NOTE: In order to avoid disclosing the figures of individual companies, data for two or more sizes of some units are combined on ARI summaries.

Reporting companies: Airtemp Div., Chrysler Corp.; Bendix-Westinghouse Automotive Airbrake Co.; Brunner Div., The, Dunham-Bush, Inc.; Carrier Corp.; Copeland Refrigeration Corp.; Curtis Mfg. Co., Refrigeration Div.; Frick Co.; Frigidaire Div., General Motors Corp.; General Electric Co.; Kelvinator Div., American Motors Corp.; Lehigh, Inc.; Tecumseh Products Co.; Trane Co., The; Vilter Mfg. Co.; Westinghouse Electric Corp.; Worthington Corp.; York Div., Borg-Warner Corp.

This summary includes all compressor bodies shipped by the reporting companies **regardless** of whether they were shipped separately or incorporated into a condensing unit or unitary end-use product (such as a room air conditioner, display case, freezer, or commercial refrigerator). Shipments for export are included. Shipments for household refrigerators are **not** included.

In order to avoid duplication of reporting, shipment figures were requested only from companies that assembled the machined compressor casting with the components necessary to make a complete compressor or motor-compressor assembly.

5 More Join Detroit Reciprocal Council

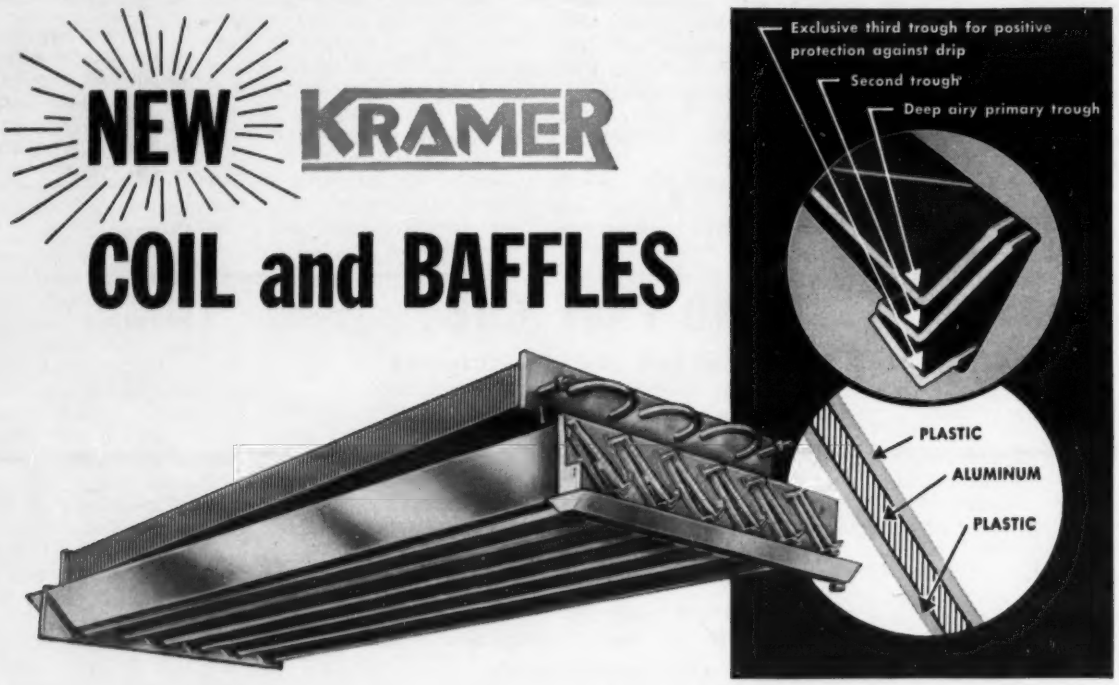
DETROIT — Five more communities have joined the Detroit area reciprocal heating council.

This brings to 77 the total of communities that now permit a heating contractor licensed in any one of them to work in any other community after registering his license in that community.

New reciprocating communities are the cities of Rochester and Utica and the townships of Brownstown, Waterford, and West Bloomfield.

NEW KRAMER

COIL and BAFFLES



with attractive lifetime
PLASTIC CLAD ALUMINUM
at no extra cost!

Permanently Attractive Baffle—Constructed of a new plastic-clad aluminum which combines the strength and flexibility of aluminum with corrosion-resistant plastic for lifetime beauty. It will not chip, peel, corrode, sag, fade nor get brittle. It is absolutely odorless and sanitary. The coil with its colorful baffle will retain its attractive appearance for the life of the cooler.

Dripless Triple-Trough Design—The triple-trough—a unique Kramer feature—provides a deeper primary trough for unrestricted draftless circulation of cool air. The narrow third trough reduces dripping to a minimum, making the Kramer triple-trough baffle virtually drip-proof.

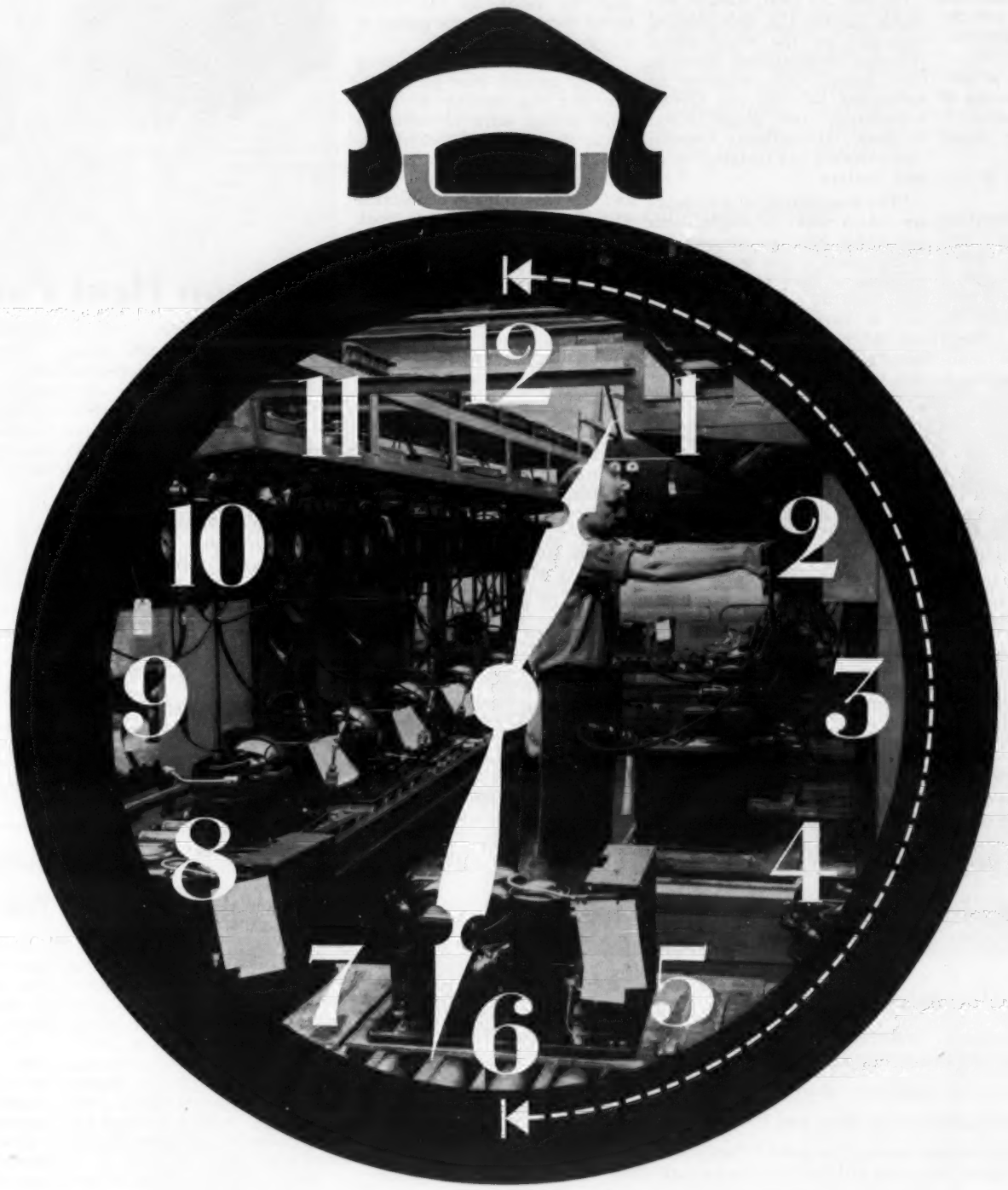
Easy to Install—Kramer coil and baffle combinations are completely assembled at the factory. Shipped in closed wooden cases, they arrive on the job clean and ready for installation, saving assembly and installation time.

Immediate Shipment—A complete range of 15 carefully selected sizes giving maximum Btu per dollar for every application are carried in stock for immediate shipment. Both left-hand and right-hand baffles are available.

WRITE FOR BULLETIN CBC-276C

KRAMER TRENTON CO. • Trenton 5, N.J.

44 YEARS OF CONTINUOUS ACHIEVEMENT IN HEAT TRANSFER



ONLY BENDIX-WESTINGHOUSE "TIME-TESTS" CONDENSING UNITS

. . . exclusive 5-point test program helps customers cut rejects as much as 75%

You can't afford time for rejects. But they occur—probably much too often to suit you. So anything which could cut your line reject rate as much as 75% would interest you, wouldn't it?

And we have it: An industry-exclusive test program which takes the trouble to "time-test" the performance of each Bendix-Westinghouse condensing unit before shipping to commercial refrigeration customers. Under this program—and we're the only manufacturer to go to such great lengths—each unit is "trial run" for a sustained period of time under conditions that *exactly duplicate the operating conditions it will face later.* Here is why you benefit.

During our 5-point test of at least 30 minutes duration, we check suction pressure and head pressure, low voltage performance, refrigerant efficiency, and other important operating factors. If there is sub-par performance anywhere along the line, that unit isn't shipped.

Sure, this testing program means extra trouble—and expense—to us. But the "product insurance" it brings our customers is the reason why Bendix-Westinghouse condensing units are able to cut line rejects so substantially.

The net result is greater customer satisfaction. And that, after all, is what you—as well as we—are most interested in. Why not find out for yourself what Bendix-Westinghouse *pre-proved* units can mean?

Bendix-Westinghouse

EVANSVILLE, INDIANA

A division of Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio. Export Sales: Bendix International, 205 E. 42nd Street, New York 17, New York.

UA and SMW Reach Agreement On Installation of Wall Heaters

SACRAMENTO, Calif. — A nationwide agreement covering the installation of wall heaters has been entered into between the United Association and the Sheet Metal Workers' International Association.

When a wall heater is centrally located, the only source of heat for the entire house, it shall be installed by Sheet Metal Workers.

Gas piping is the work of pipe fitters in the UA.

The agreement incorporating this new arrangement was transmitted to Sheet Metal Workers Local 162 here with a letter signed by General President Robert Byron of SMWIA.

Local 162 furnished official copies to Gale E. Dunn, manager of Sheet Metal, Heating & Air Conditioning Contractors Association, Sacramento District.

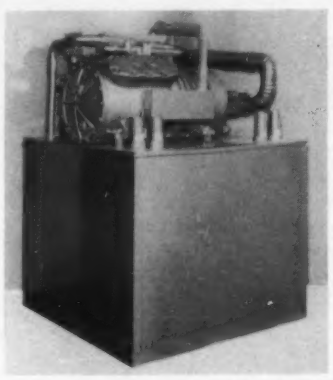
On Dec. 22, 1958, John J. McCartin for the UA, and Edward Carlough for the Sheet Metal Workers International Association, signed this "addition to agreement between the United Association and Sheet Metal Workers' International Association covering the installation of wall heaters:

"The installation of wall heaters which serve a single room and which have no connections to ductwork is the work of the members of the United Association. This includes the installation of burners, fuel lines, or any other pipe work in connection therewith; the venting of this type heater is the work of members of Sheet Metal Workers' International Association.

"In instances where a wall heater is placed in a central position, is the only source of heat for the entire house, building, or apartment then such a heater will be considered as a furnace and the installation shall be made by the Sheet Metal Worker. All gas piping is the work of UA.

"The installation and venting of wall heaters that have outlets and connections to ductwork is the work of members of the Sheet Metal Workers' International Association. The installation of burners, fuel lines, and any other pipe in connection with the installation is the work of the members of the United Association.

"It is understood that if heating element or burner comes attached to unit that it shall be installed by trade having jurisdiction in accordance with Paragraphs 1, 2, and 3."



15-TON Typhoon water chiller model WC225H occupies only 28 by 28 in. floor space.

FLORIDA beauty, Gundy Corrigan, poses with new, "highly efficient" Typhoon heat pump (only 21 in. sq.) to supply central heating and cooling for homes up to 1,800 sq. ft.

Typhoon Heat Pump Line--

(Concluded from Page 1, Col. 2)

chillers, 2 to 75 tons, using Admiralty metal corrosion-proof condensers and multiple compressor design. Compactness was demonstrated with a 15-hp. model which requires only 28 by 28 in. of floor space, and stands 43 in. high, according to the announcement.

Air-to-water: The company stated there was continued interest in this type heat pump, and it would continue to build the equipment to customer specifications through 30 hp.

Harry W. Jobes, vice president and general manager, stating that the heat pump industry "has come of age," said commercial and industrial installations "can and are now being made which would not have been considered practical with the limited residential lines available in the past.

"Orders poured in during the school far beyond our expectations, and will actually tax our expanded facilities."

Hotpoint Plans--

(Concluded from Page 1, Col. 4)

concentrate on the manufacture of larger capacity refrigerators and freezers.

Completion of the program, Wolf said, will permit Hotpoint to manufacture all refrigerators and upright freezers including the larger sizes in the Chicago plant and enable Hotpoint to ship mixed cars of any combination to distributors and dealers.

Wolf also pointed out that Hotpoint "bucked the industry trend in 1958 in that more people bought Hotpoint refrigerators in 1958 than in 1957."

Howard J. Scaife, marketing manager, refrigeration department, said sales statistics show consumers have switched to larger size refrigerators in the past five years.

Moreover, 71% of the women surveyed want larger sized two-door refrigerator-freezers; 75% of the refrigerators in use today are being used by women and families who are completely dissatisfied with the size of their present refrigerators, Scaife reported.

The success of Hotpoint "Custom Trend" marketing program was outlined to dealers by C. L. Bixby, marketing manager, kitchen appliance department. He showed them the six new Custom Trend products introduced at the January home furnishings show in Chicago. They began national tour Feb. 2 at the Tampa State Fair.

William C. Wichman, vice president, General Electric Co., and general manager, Hotpoint Div., closed the one-day business session.

"We are predicting a 10% sales increase in Hotpoint business for 1959," Wichman said. "For the first quarter of 1959, we look for about a 19% sales increase as compared to first quarter 1958."

CORRECTION

In a headline and story in the Jan. 26 issue of the NEWS, a new Detroit manufacturer's agency, Air Systems, Inc., was incorrectly referred to as Air Streams, Inc.

Buffalo Committee OKs Warm Air Heating Code

BUFFALO — Agreement has been reached on a new residential warm air heating code by a special committee of the Common Council.

The committee approved the text of the code after incorporating several changes recommended by the Law Dept. and private contractors.

The code provides for the licensing of heating contractors and sets up a five-member board to qualify applicants.

Councilman-at-Large Vincent P. Masterson, chairman of the special Heating Code Committee, turned the code over to Corporation Counsel Anthony Manguso who will prepare the final draft.

The code will be submitted to the full Council and referred to the Legislation Committee for review.

It was drafted to regulate the installation of space heating equipment so as to protect life and property.

WANTED

MANUFACTURER'S AGENT FOR THERMOMETER LINE

Excellent quality mercury and red liquid filled thermometers. Straight and angle stem. For domestic and industrial hot water, hot oil, steam or refrigeration. Exclusive territories. A good chance to increase your income.

Write to BOX A6171, AIR CONDITIONING, HEATING & REFRIGERATION NEWS giving area covered and lines handled.

Bohn Half-Rounds control temperature and humidity in one of Skychef's modern walk-in coolers. A bank of these Bohn-cooled walk-ins serves Skychef's newest and largest "plane meal" kitchen at Los Angeles International Airport.

Another installation of

"ORIGINAL HALF-ROUND" BOHN EVAPORATORS

Features of the Bohn Model HR

- Built-in louvers... *a Bohn exclusive*... increase air "throw" to provide more uniform temperature in refrigerated space.
- Guaranteed full-rated performance; UL listed.
- 7 models, capacities from 260 to 1080 BTU's at 1° T.D.
- Grained aluminum housing; rust-proof fittings, built-in heat exchanger, chrome-plated fan guard with quick-cleaning plastic filter.
- Double drip pan prevents sweating; hinged for easy access.
- Life-lubricated motor with thermal overload protection.

SEE YOUR WHOLESALER for latest catalogs and price lists on BOHN's *complete line* of standard unit coolers, low temperature units, and air-cooled condensers.

Skychef loads Bohn-fresh food for 112 passengers of the new American Airlines 707 Jet Flagship, prior to 4½-hour flight from Los Angeles to New York.

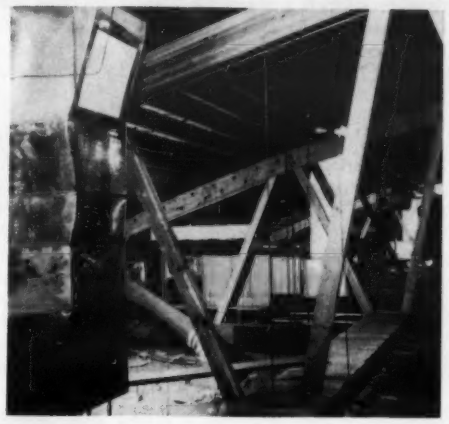
BOHN *Buy the known line... the BOHN line*

Aluminum and Brass Corporation

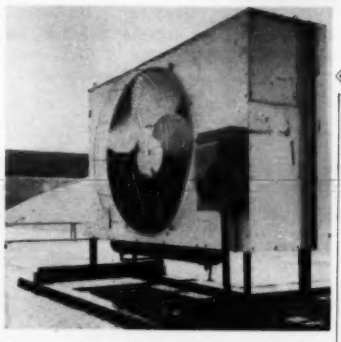
Betz Division • Danville, Illinois

In Bowling Green Bowling Alley

Outdoor Condensing Units Eliminate Cost Problems of Water, Provide Flexibility



IN the center of this photograph is one of three horizontal air handling units which are located in the superstructure of the Bowling Green Bowling Alleys. This low-side equipment is immediately below the "LRCU" located on the roof.



ONE of three large remote condensing units located on the roof of the alleys. Each unit consists of a remote cooled condenser, a receiver, magnetic starter, a Brunner semi-hermetic compressor, controls, and refrigeration accessories all piped and wired in the same casing.

WEST CHICAGO, Ill. — The 24-lane Bowling Green bowling alleys, which also includes a bar and lounge, has had another addition—air conditioning.

The high side of the system was recently installed using three Dunham-Bush "LRCU" large remote condensing units. Each of these consists of a remote air-cooled condenser, a receiver, magnetic starter, a Brunner semi-hermetic compressor, controls, and refrigeration accessories all piped and wired in the same casing.

The low-side equipment, three Dunham-Bush "HAH" horizontal air handling units were placed in the superstructure, immediately below the remote condensing units, "thus slashing costs by minimizing the length of refrigeration piping, electrical connections, and additionally the installation space required," it was pointed out.

Owners of the bowling alleys —Lee Stahelin, Phillip MacDonald, and Milton Litomisky— contacted Bremer Sheet Metal Co., Ellyn Glen, Ill., to install their system.

Stahelin said the outdoor condensing units eliminated all problems of costs involved in using water, and "give us flexibility to meet varying loads."

MINERALLAC
STEEL
Beam Clamps
for Mounting Hangers
on I-Beams

Mounts Minerallac hangers No. 0 to No. 6 on I-Beams without necessity of drilling holes. Have ¼-20 tapped holes. Fits beam flanges up to ½" thick. Low cost. Send for literature.

MINERALLAC ELECTRIC COMPANY
25 N. PEORIA ST. • CHICAGO 7, ILL.

Texas Short Course Planned for Feb. 24-27

ARLINGTON, Texas — For the first time in this area a short course in summer-winter air conditioning will be conducted at Arlington State college here Feb. 24 to 27 under the auspices of the National Warm Air Heating & Air Conditioning Association with the Tarrant County (Fort Worth) Air Conditioning Association and the Dallas Air Conditioning Contractors Association as joint sponsors. The college is located about midway between Dallas and Fort Worth.

Program is designed to inform the air conditioning and heating dealer and his employes of the proper use of fundamentals in the application of heating and cooling systems where ducts are used to distribute conditioned air.

Subjects to be covered include heat transfer through structures, duct design, furnaces, blowers and air movement, the refrigeration cycle, and basic electricity and controls.

Fee for the course is $30. This includes a banquet.

B. P. Rhinefort of Fort Worth is general chairman, and Mac Dring of Dallas is co-chairman of the short course committee.

Lecturers will include M. W. Wick, J. T. Morgan, Charles Sigman, Dr. Charles H. Pesterfield, James Mays, Ed O'Conner, Glen Brown, George Holt, Gene Dickens, Payton Simpson, and Dr. J. R. Woolf.

Brittingham Installed

AUGUSTA, Ga.—T. W. Brittingham was installed recently as president of the Augusta Plumbing, Heating & Air Conditioning Contractors, Inc., succeeding Grady Smith, Jr.

Phillips Heads Officers Of Ft. Worth Group

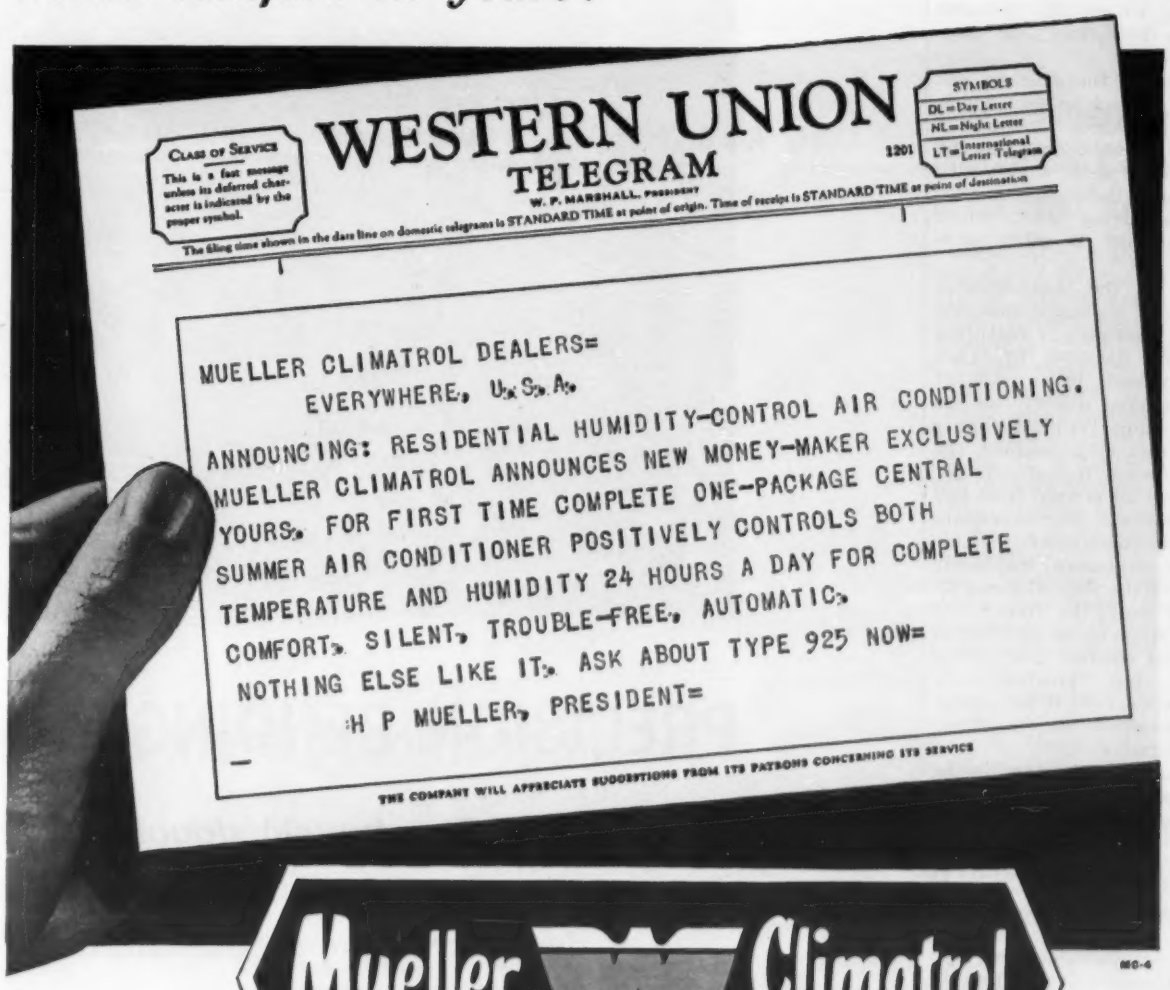
FORT WORTH, Texas — Robert S. Phillips of Phillips Engineering Co. has been elected president of the Tarrant County (formerly Fort Worth) Air Conditioning Association.

Other new officers are Wm. R. Porterfield of Lone Star Gas Co., first vice president; Wm. P. Sweaney of Air Rite Engineering Co., second vice president; and Max B. Mobley, Texas Electric Service Co., secretary-treasurer.

Directors include A. E. "Boots" Brown, Brown Heating & Air Conditioning Co.; M. N. Kaastad, E. O. "Gene" Wood Co.; J. T. Threadgill, Koldaire Supply Co., Inc.; Grant H. Johnson, Jr. (retiring president), Webb Air Conditioning Co.; and Col. Edwin D. McCoy, executive secretary.

NEW PROFITS

from the most exciting development in home comfort in years!


WESTERN UNION
TELEGRAM
CLASS OF SERVICE
This is a fast message unless its deferred character is indicated by the proper symbol.
SYMBOLS
DL = Day Letter
NL = Night Letter
LT = International Letter Telegram
W. P. MARSHALL, PRESIDENT
The filing time shown in the date line on domestic telegrams is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination
MUELLER CLIMATROL DEALERS=
EVERYWHERE, U. S. A.
ANNOUNCING: RESIDENTIAL HUMIDITY-CONTROL AIR CONDITIONING.
MUELLER CLIMATROL ANNOUNCES NEW MONEY-MAKER EXCLUSIVELY
YOURS. FOR FIRST TIME COMPLETE ONE-PACKAGE CENTRAL
SUMMER AIR CONDITIONER POSITIVELY CONTROLS BOTH
TEMPERATURE AND HUMIDITY 24 HOURS A DAY FOR COMPLETE
COMFORT. SILENT, TROUBLE-FREE, AUTOMATIC.
NOTHING ELSE LIKE IT. ASK ABOUT TYPE 925 NOW=
H P MUELLER, PRESIDENT=
THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

Mueller Climatrol
DIVISION OF WORTHINGTON

MC-4

2056 W. Oklahoma Ave., Milwaukee 1, Wis.

America's most complete line — *Comfort Control for healthful living*

GAS AND OIL WINTER AIR CONDITIONERS · GAS AND OIL BOILERS · MANUAL AND ELECTRIC HUMIDIFIERS · GAS AND OIL SUMMER AIR CONDITIONERS · GAS AND OIL CONVERSION BURNERS · ELECTRONIC AIR FILTER

WESTERN ZONE: 1024 WESTMINSTER AVENUE, ALHAMBRA, CALIF. • IN CANADA: 2490 BLOOR STREET WEST, TORONTO 9, ONTARIO

Rheem Auto-Balance System Has 'Engineered Simplicity for Greatly Increased Comfort'

MULTIPLE DAMPER system of the Rheem Auto-Balance System of two-zone comfort conditioning is seen as installed on the new Rheem-glas Lowboy furnace. Operated by the factory assembled damper motor and linkages, the dampers are housed in a completely insulated casing, which may be installed directly on the Rheem furnace or on a Rheemaire central air conditioner cooling coil cabinet.

CHICAGO—"Engineered simplicity for greatly increased comfort" is the keynote of the new Rheem "Auto-Balance System" being introduced by the Home Products Div. of Rheem Mfg. Co.

The Auto-Balance System, a completely packaged two-zone control system, designed for use with Rheem warm air furnaces and "Rheemaire" central air conditioners, "makes possible complete comfort regulation in both the living and sleeping areas of the home," the company claims.

"Using two thermostats, one mounted in each of two zones, the Auto-Balance System is particularly applicable in zoning the split-level home where, with only a single thermostat mounted on the living level, 'whole house comfort' is often lacking."

Heart of the Auto-Balance System is a packaged two-zone damper assembly, featuring multi-blade dampers for each zone, actuated by a damper motor mounted directly on the damper casing. With all damper linkages factory assembled, the system is ready to install in the conditioned air stream from any Rheem furnace or Rheemaire central air conditioner.

Rheem engineers emphasize that use of the Auto-Balance allows not only the living and sleeping areas to be maintained at different comfort levels automatically, but "provides very fine control— even if both areas are maintained at the same temperature.

"Thermostats, mounted in the two zones, bring about constant repositioning of the floating dampers. Thus, a proper percentage of heated or cooled air is provided to each zone, according to the thermostat settings."

Other applications of the Rheem Auto-Balance System include zoning of a single room located anywhere in the home. Such an area often will be a room situated over an unheated garage, a family room addition to the home, or a basement.

"The distribution of heat gain or loss experienced by a home may be influenced greatly by travel of the sun during the day, as well as by a change in wind direction," it was pointed out. "Under such conditions the Rheem Auto-Balance constantly adjusts the flow of conditioned air to each zone, according to the zone requirement at any time."

Auto-Balance may be used in conjunction with any Rheem furnace for heating-only systems, or in any year-round comfort system featuring a Rheemaire central air conditioner.

Auto-Balance is expected to generate important savings in fuel and power, the company added.

Introduction of the system, which also features a completely insulated damper casing, is being made by Rheem sales representatives during early 1959 meetings with wholesale distributors and installing contractors.

Research Project 'To Do Something Now' About Air Pollution Problems

MARSHALLTOWN, Iowa—A basic research project has been launched to "do something now" about the nation's increasingly serious air pollution problem, says John W. Norris, president of Lennox Industries, Inc.

Norris said the problem of air pollution in the United States, recently brought into focus by a conference on the subject in Washington, D. C., dramatizes the need for homeowners to "manufacture" their own home climates.

He pointed out that it is now entirely feasible for homeowners to isolate themselves from the contaminated air of their neighborhoods. Modern building construction, with its tight millwork and weatherstripping, virtually eliminates the infiltration of polluted air while a modern circulating type of indoor comfort system keeps the air fresh by pre-filtering such outside air as is necessary.

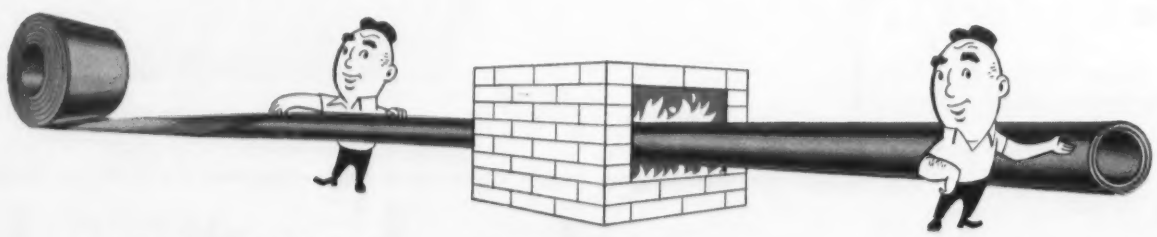
Electrostatic or electronic air filters are highly efficient in the removal of contaminants which we can detect with our senses of sight and smell, it was stated. While there is every reason to believe that this type of filter will protect against air pollution, Norris has instituted a research program to determine how damaging are any contaminants left—if any—after electrostatic filtering.

"If any of these contaminants are discovered following this type of air filtering," he says, "it will be a simple matter to remove them."

WHY BUNDY LEADS IN MASS-FABRICATION

PRECISION BENDING... Another reason why

And Bundyweld *double-walled* steel tubing can be mass-fabricated into practically any leakproof shape... at minimum cost per unit



Bundyweld starts as a single strip of copper-coated steel. Then it's continuously rolled twice around laterally...

into a tube of uniform thickness, and passed through a furnace where copper coating fuses with basic steel.

Result: Bundyweld Tubing—double-walled, beadless, metallurgically bonded through 360° of wall contact.

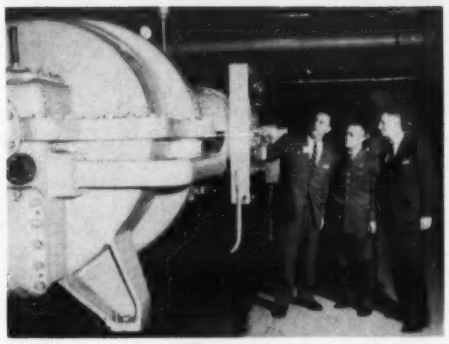
Keeping Giant Computers Accurate

Air Defense Centers Need Constant Cooling To Provide Protection for 45 Million People

SYRACUSE, N. Y.—Carrier refrigeration plays a vital role in air defense protection for 45 million people in 14 states along the Atlantic Coast from Maine to North Carolina.

Centrifugal water chilling machines provide the constant cooling necessary to keep giant computers and other electronic equipment precisely accurate in SAGE centers of the northeastern command area, Carrier Corp. pointed out.

There are 16 Carrier centrifugal refrigeration machines in the five SAGE centers of the 14-state system. The one in Syracuse—"brain center"—has four, the others three each. The first SAGE command division in the North American Air Defense (NORAD) system became operational here recently.



COOLING necessary for continuous operation of giant electronic computers at the SAGE Combat Command Center for air defense of the entire Northeastern United States, located at Syracuse, N. Y. is provided by four large-capacity centrifugal water chillers. Controls for the Carrier Corp. refrigerating machines are explained to Col. William E. Elder, vice commander of the center, by Charles V. Fenn (left), vice president of the Machinery & Systems Div., which builds the coolers. Hermann C. Hoffmann, (right), is general sales manager for the same division.

The highly sensitive electronic computers which generate tremendous quantities of heat while identifying, tracking, and directing interception of possible enemy aircraft, would become inoperative in five minutes if not continuously cooled, it was noted.

"This is one of the most important assignments ever given our refrigerating units," Charles V. Fenn, Carrier vice president said. The large-capacity coolers are built at the company's Thompson Road facilities by the Machinery & Systems Div. under the direction of Fenn.

Four of the big machines, each with a capacity of 400 tons, plus two packaged water chillers adding 80 tons, are located inside the 4-ft.-thick walls of the concrete blockhouse.

Smaller radar posts elsewhere under the Combat Command Center at Syracuse will each use three of the same size Carrier centrifugal refrigeration machines. All chillers are not needed simultaneously. Some are on standby duty.

Because SAGE is "semi-automatic," it means men make the important decisions. They do this with keyboard, pushing buttons which feed desired information into the computers for a quick answer. They also do this through "light" guns, photocell gadgets which are "shot off" at the command screens to transmit certain information to the computers.

Some of the cooling produced around-the-clock maintains comfortable temperature and humidity for airmen in the sealed station.

Heat from the digital computers and photoelectric devices would reduce alertness of humans without the controlled atmosphere.

Fenn noted that Carrier has provided to date, cooling equipment similar to that at the Syracuse base for two-thirds of planned SAGE sites.

In addition, International Business Machine Co. plant at Kingston, N. Y., where these special computers are made and from where a Bomarc interceptor missile was recently triggered to flight from Cape Canaveral, Fla., is Carrier air conditioned.

Kroger Builds Food Distribution Center In Memphis Area

MEMPHIS—A huge distribution center for the Kroger Co. will be built on Frisco at Airways. The warehouse-office building will cost "in excess of a million dollars."

The one-story structure will contain about 190,000 sq. ft. of floor space compared with 130,000 sq. ft. in the present location at 1054 Florida.

There will be subzero freezers for frozen foods, an air conditioned section for produce, "wet" and "dry" refrigerated rooms for fresh fruits and vegetables, and banana ripening rooms with a jungle-type climate.

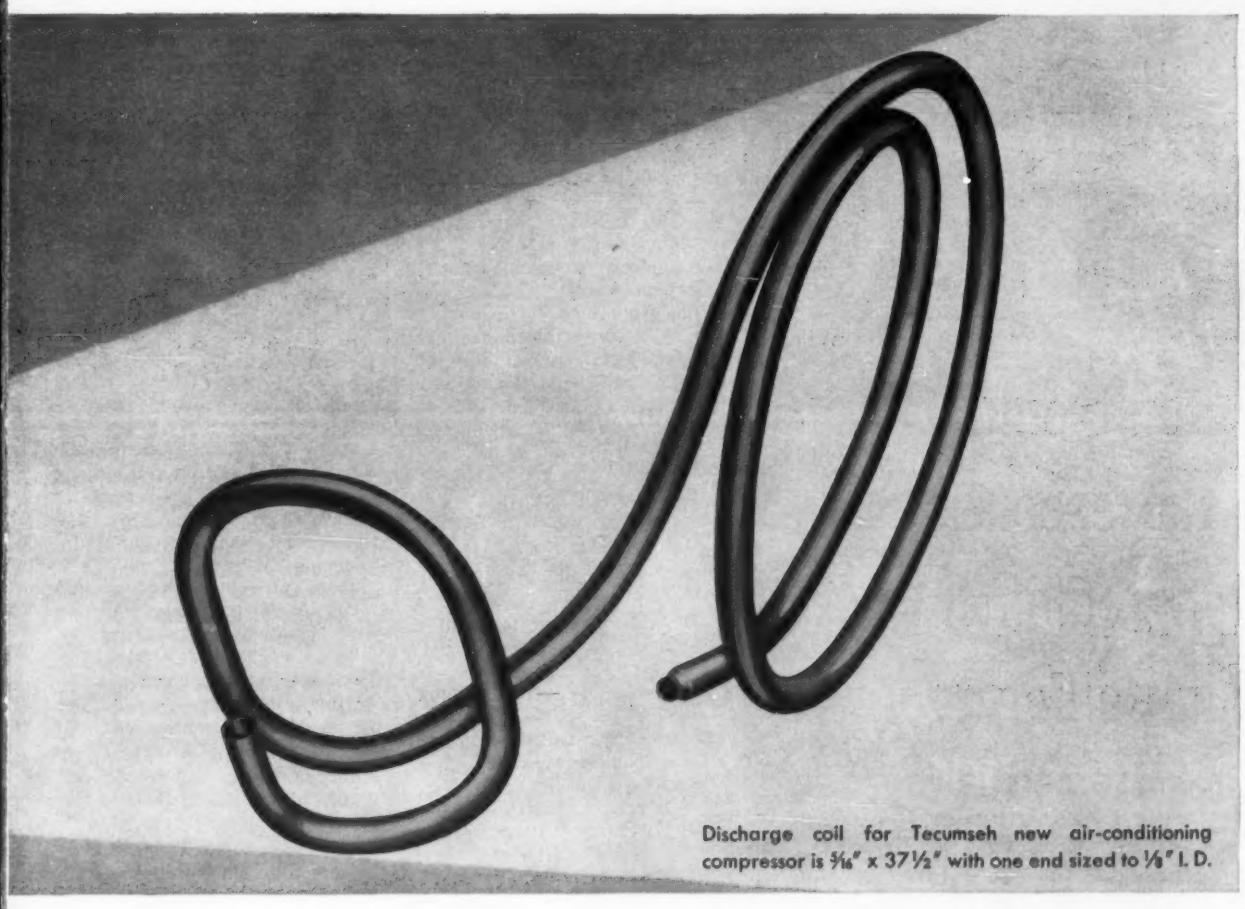
Air conditioned office space will be located at one corner of the huge building. It will be air conditioned.

4 Air Conditioning Systems Aid Firm's Research Experiments

SPARTANBURG, S. C. — Deering Milliken Research Corp. has formally opened in its new $2,000,000 home here.

President Russell B. Newton said four air conditioning systems will permit scientists to control temperatures and humidity during experiments.

The two buildings have a combined area of about 80,000 sq. ft. They include many specially designed laboratories and testing areas and three pilot plants. The latter have a total area of 10,000 sq. ft.



Discharge coil for Tecumseh new air-conditioning compressor is 5/16" x 37½" with one end sized to ⅛" I. D.

Bundyweld parts always meet specifications

Bending steel tubing into complex shapes is a Bundy® specialty. That's why Tecumseh came to us for a discharge tube in a new air-conditioning compressor. Bundy specialists fabricated the coil (shown above) to such tight tolerances that it was able to clear both inner casing and outer shell. Here's why you should bring your tubing problems to Bundy, too:

The safety standard of the refrigeration industry. Double-walled from a single strip for extra strength, every inch of Bundyweld® is tested to assure you of years of leakproof performance.

Expert fabrication. Skilled technicians use Bundy developed fixtures and machines to mass-fabricate parts by the millions . . . each to closest tolerances.

Free design service. Our engineers will assist you at any stage in the development of your product. They'll help you design tubing parts for lowest unit cost . . . without compromising engineering standards.

It will pay you to check *first* with Bundy, the largest producer of steel tubing for the refrigeration industry. Write, wire, or call us today!

BUNDY TUBING COMPANY • DETROIT 14, MICH. • WINCHESTER, KY. • HOMETOWN, PA.

WORLD'S LARGEST PRODUCER OF SMALL-DIAMETER TUBING • AFFILIATED PLANTS IN AUSTRALIA, BRAZIL, ENGLAND, FRANCE, GERMANY, AND ITALY

There's no real substitute for

BUNDYWELD® TUBING

Bundyweld and Bundy specialty tubings are sold through distributors in principal cities

Inside Dope

By GEORGE F. TAUBENECK

(Concluded from Page 1, Col. 1)

mercialized psychologist's rambling discourse.

Item One: "Other nations now are adopting American psychological values as represented by American convenience products, despite their rejection of America's political concepts." (This was the theme-song of "Dope's" 1958 around-the-world-in-50-days reports.)

Item Two: "Planned obsolescence, as represented by annual model changes in autos, refrigerators, etc., will help the U.S.A. stay in the race with Communist Russia technologically—because it keeps engineers on their toes."

Although Dr. Dichter didn't say this, we do—again:

World War III probably won't be fought by military cadres. It will be an economic war, fought by salesmen and engineers. It has started already.

America's survival, thereupon, depends not so much on weapons and armies, but upon the manners and methods by which we expand our foreign commerce and investments.

That's what Khruschev proclaims, that's what Dr. Dichter intimated, and it's what every businessman "Dope" interviewed in 39 nations believes.

The U.S.A. has a big head-start in this race. Can we, will we, capitalize on it? Our problem is: *to recognize the real problem.*

Which is: SELLING all over the world. This we have neglected lately.

How a Good Salesman Operates

While laying his advertising agency's presentation before the board of an important client, the late George L. Dyer sensed that his audience was unimpressed and unsympathetic. So he folded up his elaborate charts and announced:

"Gentlemen, I know my proposal has failed. But before I leave, I want to express personal gratitude to the one man here who, I can see, has understood the subtleties, the finer points of this plan. I am grateful for the compliment of such keen appreciation. His sympathy, though silent, has been my great reward."

Dyer returned to his office. Within a week every member of the board had called him individually—thanking him for having perceived in that member a friend who would go to bat at once to get a rehearing for his ideas.

The Seller's Soliloquy

With apologies to Shakespeare and his Hamlet:

To cut or not to cut, that is the question;
Whether 'tis not better in the end—
To let the chap who knows not what his expenses are,
Have the sale at cut-throat price, or
To take up arms against his competition,
And by opposing, cut for cut, end it.
To cut—and by cutting put the other cutter
Out of business—'tis a consummation
Devoutly to be wish'd. To cut—to slash—
Perchance myself to get it in the neck—
Ay, there's the rub; for, when one starts
To meet the other fellow's price;
'tis like as not
He'll find he's up against it good and hard.
To cut and slash is not to end the confusion,
And the many evils the trade is pestered with;
Nay, nay, Pauline, 'tis but the forerunner
Of debt and mortgage such course portends.
'Tis well to get the honest price the goods are worth
And not be bullied into selling them
At what So-and-So is selling for.
Price cutting doth appear unseemly,
And fit only for the man who knows not,
But merely guesses, what his expenses are;
Who, ere long
By very stress of making vain comparison
'Twixt bank account and liabilities,
And Advertising Shylocks pressing very hard,
Will make his exit from the business.

Verses of the Week

"Between the idea and the reality,
Between the motion and the act,
Falls the Shadow."
—T. S. ELIOT

'Ye that have faith to look with fearless eyes
Beyond the tragedy of a world at strife,
And trust that out of night and death shall rise
The dawn of ampler life;
Rejoice, whatever anguish rend your heart,
That God has given you for a priceless dower,
To Live in these great times and have your part
In Freedom's crowning hour;
That you may tell your sons who see the light
High in the Heavens . . . their heritage to take. . . .
'I saw the powers of darkness put to flight,
I saw the morning break.'"

Good Puzzle

Missouri farmer died, leaving 17 mules and three sons. In his will he disposed of his property as follows:

One half to the oldest son, one third to the next, and one ninth to the youngest.

Trustee who tried to administer the estate drove a span of his own mules out to the deceased's farm.

When he mentally divided the 17 bequeathed critters into halves, thirds, and ninths he decided it was impossible so he unhitched one of his own, and donated it to the estate.

Together that made 18 mules, which he proceeded to divide as follows:

One half, or nine, to the eldest son.

One third, or six, to the next son.

One ninth, or two to the youngest.

Adding up nine, six, two, he found that it made 17, so he hitched up his own mule, and left happy.

Now, where's the flaw in this mathematical quandary?

Out of Our Mailbag

Geiger Air Conditioning and Refrigeration Co., Inc.
Irvington, New Jersey

Editor:

Until recently, I thought the air conditioning industry received the brunt of the consumer difficulties. However, I came across a letter which points up the fact that apparently even the Coffee Exporters have their difficult days.

I'll bet you encountered more difficult problems than separating coffee beans (or did you?) during your recent "50 days around the world." I might add, that your coverage of this trip was really exciting.

Our organization eagerly looks forward to each issue of the NEWS. In fact, "Dope" is somewhat like the comic strip, to us, we read your column prior to the balance of the issue.

ERWIN GEIGER,
President

P.S.: Here is that letter.

A New York coffee company sent a shipment to Hamburg, Germany. En route, the rats cut the coffee bags up, nested in the coffee and damaged the shipment.

However, the shipping concern sewed the bags up and sent them on to Hamburg.

In a week or two, the New York company received the following letter:

135 Willemstresses
Hamburg, Germany

Andrews Coffee Co.
435 W. 39th St.
New York, N. Y., U.S.A.

Shentlemens:

Der last too perchesages uf koffey ve got frum you vas mitt ratt schidt germixt.

Der koffey may be gutt enuff but der rattschidt schboils der trade ve gott. Ve did not zee der rattschidt in der samples which you zent before to us. It iz taken so much time to pik der rattschidt from der koffey out.

Ve order from you der kleen koffey and you schipt schidt germixt mid koffey, it vass a mischtake yes—no?

Ve like you to shipt us der koffey in von zack and der rattschidt in von odder zack den ve germix to zute der kustomer.

Vont you wire pleeze if ve shud schipp bak der schidt und keep der koffey or keep der schidt und schipp bak der koffey?

Or, do you vant ve shud schip bak der hold schidten vorks?

Ve vant to do vat is ridte in diss madder but ve do not like dis dam rattschidt bissinesses.

Mitt much reschpekts,
HANS BURDER

Don't omit
the essential
ingredient
in selling...
COMPLETE YOUR PROPOSAL
WITH FINANCING ON THE
COMMERCIAL
CREDIT PLAN
Most prospects need their cash reserves and usual lines of credit for current operation. Make it easier for them to sign on the dotted line by including financing arrangements. COMMERCIAL CREDIT'S Refrigeration Plan has become an essential part of the proposal of so many refrigeration and air conditioning companies.
COMMERCIAL CREDIT'S Refrigeration Plan is tested by time and experience in handling the financing for thousands of commercial installations. Let us show you how COMMERCIAL CREDIT'S experience and know-how can save you time and money . . . and help you close sales with less delay. Call the nearest COMMERCIAL CREDIT office or write COMMERCIAL CREDIT CORPORATION, 300 St. Paul Place, Baltimore 2, Md.
BUY ON TIME
COMMERCIAL CREDIT PLAN
ANOTHER SERVICE OFFERED BY AFFILIATES OF COMMERCIAL CREDIT CORPORATION

Service Contracts

You Can't Make Money on All of Them, But This Firm's Experiences Can Help You Profit from Most of Them

COLUMBUS, Ohio — "Every service agreement or contract cannot show a profit; most will, however, if you know your costs and have figured your contract rates realistically.

"And when you experience losses, don't attempt to recover them all the first year. You'll drive customers away."

This advice was given the 21st annual meeting of the Refrigeration Service Engineers Society by George T. Sutphin, president and general manager, Kelnard Services, Inc., Long Island, N. Y. Sutphin's company has 29,000 residential and 6,000 commercial appliances and units under service agreements.

Handling this work are 19 domestic men, 21 commercial, and 6 shop men. The shop occupies 6,000 sq. ft.; 2,500 sq. ft. are used for parts, and 2,500 sq. ft. for office.

"The well organized independent service shop can serve a manufacturer more economically than captive service organizations," held Sutphin.

Describing some of his operation, he stated that he uses 44 ½-ton panel trucks. The small trucks can handle enough parts for most service work and are easy to handle and park.

Stressing the point that a callback made necessary by the lack of a part doubles the cost of that service, he insisted that private cars for service belong to the horse-and-buggy age. Sutphin also feels strongly that renting trucks is more costly than owning them.

Truck expenses on most of his trucks run 78¢/hr. This includes entire cost of field service, depreciation, parking, and maintenance. Those trucks which are fully depreciated are operating at 66¢/hr.

Truck advertising has been found more effective than either newspaper or Yellow Page advertising, according to Sutphin. Therefore, he makes it a point to keep the trucks clean, painted, and all lettering bright and legible.

Since cabinet calls predominate on domestic refrigerator service, one truck is outfitted completely with cabinet parts.

Sutphin does not like the word *contract*, feeling that it frightens people with its connotation of legality and formality. The word *insurance* is also to be avoided, he advised, since in most states, this term has a very definite legal definition. The word he likes best is service *agreement*.

Service agreements help keep the shop working in winter, he continued. The proper number of service agreements, properly priced, eliminate the need for hiring a great many temporary men during summer peaks—even if they were available.

On the subject of summer hiring, Sutphin said that it is difficult to obtain as many as half a dozen people of any real merit. Truly skilled men, of course, will not be floating around in summer since they will be kept on the payrolls.

Speaking on costs of service agreements, he indicated that the price of agreements goes up 2-5% each year, taking into account both the increasing age of the unit and the increased operating cost for the service company.

The agreement can be canceled upon written notice of either party. Sutphin feels this is only fair, since the customer may have one of several legitimate reasons for discontinuing an agreement. And on occasion, the service company may find an agreement too costly for profitable continuation.

Asked from the floor how he would react to a service call on a new appliance whose serial and model numbers had been obliterated, Sutphin answered that he would treat it as a normal C.O.D. service call.

"It is not the service company's responsibility to determine the warranty status of a piece of equipment which has been trans-shipped unethically or bought through discount houses."

Questioned about the use of radio in his 44 trucks, Sutphin stated that, for him, the rental cost in the New York area for radio communication is estimated at $12,000 annually. Since his telephone calls for the year come only to $2,600, it is not practical to consider radio communication.

Weekly TV Spots Boost Service Volume

HOUSTON, Texas—Contracting for a few weekly television "spots" has boosted air conditioning and domestic refrigeration service volume considerably for Airtop, York air conditioning dealership here.

W. F. Fenoglio, president of the firm, hit upon a simple idea in TV advertising which he has found pays better results than anything else he has ever used.

This was to flash a commercial photograph of the Airtop nine-truck service fleet on TV, together with a 20-second commercial, urging homeowners with air conditioning or refrigeration problems to call Airtop.

Pointed out was the fact that all of Airtop's service trucks are equipped with two-way radio communications, which means that a truck will be at the site within a matter of minutes in most instances.

Soon after adopting the TV program, Fenoglio watched his service load increase steadily, in every section of the city.

A check with homeowners on how they selected Airtop for either new air conditioning, air conditioning service, or repairs, indicated that at least 15 out of 20 remembered "the truck picture you show on TV."

Also cited was the big Airtop display ad in the telephone directory.

Get your copy

Operating Costs of Residential Air Conditioning and What This Means to Dealers and Installers. By R. A. Gonzalez—25¢ each.

Mail this ad with your name and address to: Air Conditioning, Heating & Refrigeration News, 450 W. Fort St., Detroit 26, Mich.

SPECIFY • INSTALL

ALCO

EVAPORATOR PRESSURE REGULATORS

Alco Evaporator Pressure Regulators accurately maintain evaporator pressure in either a single or multiple system, guaranteeing highest evaporator efficiency regardless of load changes.

Call your Alco Wholesaler—
Write for (Specifications) Bulletin #183-57.

• BUY SECURITY
• BUY QUALITY
• BUY ALCO

ALCO VALVE CO.
853 KINGSLAND AVE. • ST. LOUIS 5, MO.

7805

The one complete line of refrigerant controls: Thermostatic Expansion Valves • Refrigerant Distributors Solenoid Valves • Suction Line Regulators • Flooded Evaporator Controls and Reversing Valves

Inventor Looks for Manufacturer

Torcold Speeds Auto Cooling Compressor At High Speeds, Slows It at Low Speeds

OKLAHOMA CITY — A "governor in reverse" that speeds up an auto air conditioning compressor at slow engine speeds and slows it down at high engine speeds has been developed here by Byron Savage, inventor.

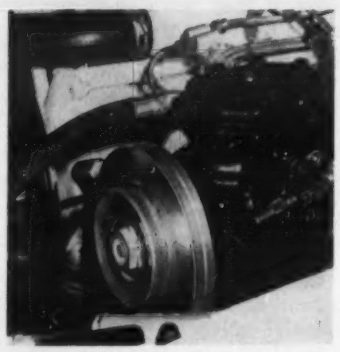
He is looking for a manufacturer to produce it.

Called "Torcold," the device takes the place of the ordinary drive pulley on the compressor. When the car motor is running slowly, the governor is in complete contact and the compressor runs much faster than it would normally operate at slow engine speeds.

As the car motor speeds up, Torcold starts releasing, keeping the compressor operating at about the same relative speed.

Savage claims the device provides quicker cooling at the start, less wear and tear on the compressor at higher speeds, and greater efficiency at all speeds. He claims it eliminates the need to compromise on compressor speeds.

He indicated that the device would be simple and cheap to make in quantity. It could probably be combined with the magnetic clutch, he said.



"TORCOLD" is said by its inventor, Byron Savage, to take the place of the ordinary drive pulley on automotive air conditioner compressors. It works like a "governor in reverse."

International Plans Conditioners for Foreign Automobiles

FORT LAUDERDALE, Fla. —H. T. Kessler, president of International Automotive Air Conditioning Corp., announcing plans of the firm to expand into the imported car field, said a complete line of air conditioning units for the foreign models will be offered.

He added that the company planned to set up a network of distributors and franchised dealers as it did with its units for domestic automobiles.

International has expanded its production and marketing facilities rapidly in the past year and is now offering its units for American-made cars in a wide area of the country, according to Kessler.

Kessler said the company will design its own evaporator to fit the smaller, foreign cars, and a special compressor—previously built in Germany—will now be made in this country.

Sheriff Asks Cool Cars for Deputies

HOUSTON, Texas — The sheriff of Harris County has asked the county government to air condition the 14 patrol cars used by his deputies.

"We do not think we are out of line," Sheriff C. V. (Buster) Kern told the Commissioners Court. "These men work in cars and should enjoy the same comfort as office employes."

The county courthouse, which includes the sheriff's offices and the county jail, is air conditioned. Cost of the project, Kern estimated, will be about $3,570.

Lo-Merc Has 'Auto-Matic Cooler' To Speed Cooling In Slow Traffic

HOUSTON, Texas — Lo-Merc Automotive Air Conditioning Co. has announced a new "Auto-Matic Cooler" to be used with all makes of automobile air conditioners to speed the cooling process in downtown traffic and eliminate overheating of cars.

The cooler has taken a car out of the overheated range within one minute, J. A. McFaddin, company president, reported.

In one series of tests, a car which previously overheated within 12 minutes while idling in 94° weather did not overheat at all after two hours with the "Auto-Matic Cooler" installed, according to McFaddin. The same car overheated without the cooler in 82° weather in 28 minutes but did not overheat at all during the tests with the cooler installed, it was pointed out.

McFaddin said that the Lo-Merc cooler will actually increase the efficiency of the evaporator. It uses only surplus cooling not used in the evaporator section, he explained.

The cooler is available to manufacturers and dealers, McFaddin said. It was invented by W. C. Cornelius, who has developed a number of automobile accessories, including the "Speed Zone Control." It is designed to eliminate the added heat created by the condenser which, of necessity, must be placed in front of the automobile radiator.

Quick cool-down is the feature most desired by the average user of auto air conditioning McFaddin pointed out. Yet a driver in the downtown area of a city cannot maintain a speed which will enable his compressor to cool down his car quickly after he has parked it for awhile—and the temperature inside the parked car may reach as high as 125° on a summer afternoon, when the driver needs quick cooling, he said.

The problem facing engineers, it was stated, has been that if you increase compressor speed at low car speeds you would also have to increase the speed of the radiator fan, and it would be a good idea to increase the water pump and generator speed.

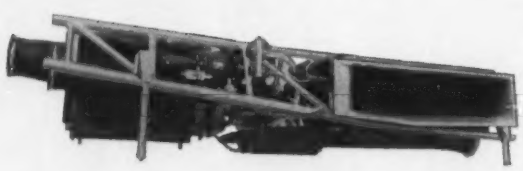
Cornelius said the Lo-Merc Auto-Matic Cooler solves the problems, and makes it possible to operate the air conditioner at peak efficiency at all times, even when the car is idling.

where efficiency and dependability are

Drymaster

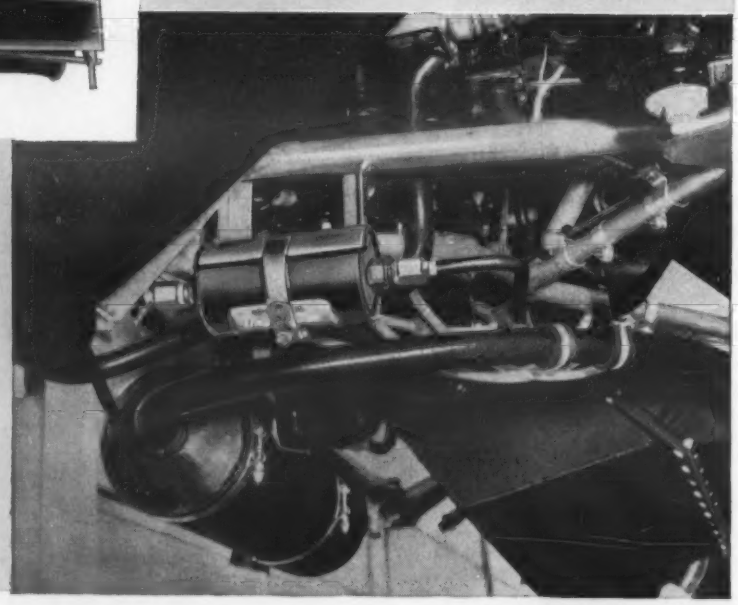
America's first jet liner . . . Boeing 707 utilizes dependable Drymaster Filter Driers for air conditioning

Two Drymaster Filter Driers are integral components of the AiResearch Freon system, made by the AiResearch Manufacturing Co., Division of The Garrett Corp. of Los Angeles, California, that supplies 20 tons of cooling for air conditioning in America's first jet liner . . . the Boeing 707. In flight operation, an AiResearch turbocompressor supplies air first to a primary heat exchanger where heat of compression is removed. The air then passes through the Freon evaporator where it is cooled and de-humidified and is then introduced into both cabin and cockpit areas where it provides cool air for passengers and crew. Drymaster Filter Driers were selected for this tough application because they successfully met all the unusual, demanding requirements of high speed jet liner travel. In spite of constantly changing load requirements caused by extreme variations in altitudes and temperatures, Drymasters give outstanding balanced performance on the ground or at 30,000 feet.



AiResearch Freon system pictured above is one of two units installed in the Boeing 707. Each unit supplies 10 tons of cooling for air conditioning the entire plane.

View at right shows Drymaster Filter Drier as an important component of Boeing 707's air conditioning system. The Drymaster Filter Drier will also be employed in air conditioning units for other jet aircraft now being manufactured, the Douglas DC 8, Convair 880 and the Lockheed Electra.



MADE IN U.S.A. TO THE STANDARDS OF AMERICAN INDUSTRY

MUELLER BRASS

VAMPCO ALUMINUM PRODUCTS, LTD., STRATHROY, ONTARIO

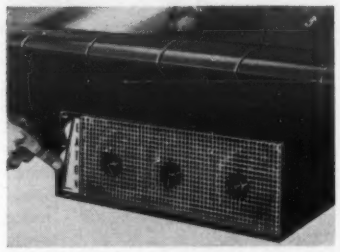
In 15 States

Eaton Making Auto Air Conditioning Systems Available to 'After-Market'

CLEVELAND — Eaton Mfg. Co. announced that it is making its automotive air conditioning systems available to the after-market through distributors and dealers in ten western and five southwestern states.

Eventually the company intends to expand the outlets to include every major section of the country.

The model being offered to the after-market is described as a compact system that lends itself to easy installation under the dashboard of practically every popular make of automobile.



EATON MFG. CO.'S compact air conditioning system for installation under the dashboard of automobiles is being offered to the after-market in 15 states through distributors and dealers.

"Among the important features are its plastic front panel, full-range control of air volume for easy selection of air flow in any desired amount, thermostatic temperature control, and the magnetic compressor drive which was originated and developed by Eaton," the announcement said.

"The advanced design and features of this after-market unit are the result of Eaton's experience as a supplier of original equipment air conditioning systems to auto makers.

Auto Air Conditioning

On these two pages the NEWS presents a number of developments and new products in the field of automobile air conditioning, which should be of interest to firms that are engaged in this rapidly growing phase of the air conditioning industry. The NEWS recently completed the third volume of "Servicing Automobile Air Conditioners" by C. Dale Mericle. The first two volumes of this series are available in manual form from the NEWS at $2.00 per volume.

1959 Frigiking Model 59-UD car air conditioner.

Frigikar Announces New 10th Anniversary Automobile Air Conditioners for 1959

DALLAS—Frigikar Corp. announces three new "10th Anniversary" automobile air conditioners for 1959.

The "Frigiking" model 59-UD under-dash air conditioner features "new high-capacity, instantaneous cooling" for both front and rear passenger compartments, the announcement said.

Bert J. Mitchell, Frigikar president, stated that because Frigiking throws a fast jet-stream of air to the rear of the car, it has been tabbed as "Jet Stream" air conditioning.

Frigikar has increased its air conditioners' availability to 161 different makes and models of automobiles, 1952 to 1959.

"New contemporary case styling gives the Frigiking unit the appearance of being a part of the car," it was pointed out. "Four new die-cast chromium-plated air direction outlets, when properly set, provide equalized whole-car 'four-corner' cooling—faster, with simplified finger-tip, pushbutton, "Magne-Touch' no-draft control."

Another innovation, according to Mitchell, is the new city driving and highway driving control —set by a dial on the front of the case. Driving in congested city traffic "can now be as comfortably cool as highway driving, due to a 20% increase in compressor capacity at low car speed," it was stated.

Automobile air conditioning distributors from 38 states, attending Frigikar's 10th Anniversary distributor meeting here, also witnessed the introduction of a new rear package tray unit, Frigikar model 59-BPT, which Mitchell feels will be needed in some 1959 cars to meet requirements of about 60% increase in glass area.

The Frigikar unit has been redesigned to fit all makes and models of American cars having luggage compartments. Mitchell demonstrated how the low, adjustable directional air ducts can be regulated to suit the comfort of all passengers.

Also available in the 1959 Frigikar product line is the 59-Dual Frigiking, combining the underdash and rear units in the same vehicle, using twin evaporators and a single compressor — for limousines, ambulances, etc.

"1959 engineering and other mechanical improvements," the company said, "include 15% increase in the cooling area of the coils; the direction of air-to-be-cooled over the entire cooling coil surface by four-square placement of Frigiking air louvers; all-metal case construction for greater strength; less compressor torque, bigger compressor bearings, and improved compressor crankshaft design resulting in a decrease in Frigiking's draw on the car's horsepower."

Frigikar reported a continuing expansion program and anticipates a 50% increase in both domestic and foreign distributors and dealers during 1959.

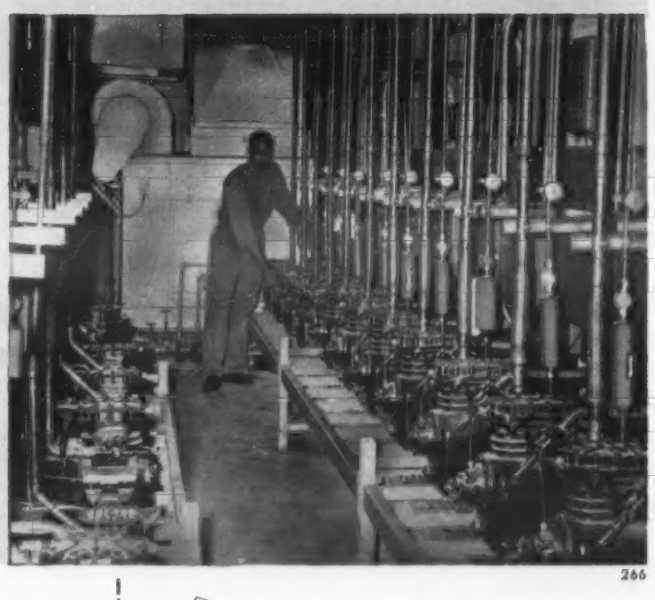
vital it pays to depend on

FILTER DRIERS

Huge King Sooper Market uses dependable Drymaster Filter Driers for refrigeration

To provide efficient and reliable refrigeration for frozen foods, King Sooper Market in Denver, Colorado, has installed the largest refrigeration system of its type in the Rocky Mountain area. In this system, which handles 1160 lbs. of Freon, there are about 3 miles of Mueller Brass Co. copper tube, fittings, valves, 28 Drymaster Filter Driers and other accessories. Drymasters have three outstanding design features that insure removal of all harmful moisture, acid, sludge and foreign particles from this big system. A new inlet distribution disc disperses refrigerant evenly throughout the entire filter block desiccant; the desiccant itself is a fully activated, pressure molded briquette that has proved itself superior in balanced cleaning and drying qualities to all other desiccants. The third unique feature is the perforated center filter tube covered by a super-fine monel screen that makes a doubly effective safeguard against dirt and sludge. The Drymaster Filter Drier is unexcelled in exacting applications like this, because it is the only filter drier that gives guaranteed *balanced* performance. It offers superb filtering and drying properties, without sacrificing one for the other.

Refrigeration system at King Sooper Market. Installation by Arctic Refrigeration, Inc., Denver, Colorado. Supplies furnished to the contractor by Refrigeration Distributors Corporation of Denver.



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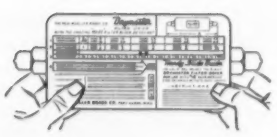

New, revolutionary slide-guide helps you select the correct Drymaster Filter Driers for every installation quickly and easily . . . Available free . . . send for yours today.

Catalog R-137 gives complete information on all Mueller Brass Co. refrigeration and air conditioning products. Get your copy today.

CO. PORT HURON 13, MICHIGAN

Exclusive Canadian Representative for Mueller Brass Co. Air Conditioning and Refrigeration Products

They'll Do It Every Time

by Jimmy Hatlo

SHOEHORN TRIED THE SELLING GAME, BUT ALL HIS PROSPECTIVE CUSTOMERS GAVE HIM THE SAME MOAN AND GROAN···
NOW, THIS MUTUAL FUND IS NOT ONLY SECURITY FOR YOUR OLD AGE···BUT THE DIVIDENDS···
LOOK···SAVE YOUR BREATH! MY MONEY IS ALL TIED UP IN DEBTS··· EVERYBODY AND HIS BROTHER OWES ME DOUGH! NOBODY PAYS FOR ANYTHING ANY MORE···IT'S ALL ON THE CUFF···AN' TRY TO GET IT···
SO HE THOUGHT WHAT THE BUSINESS WORLD NEEDED WAS ANOTHER BILL COLLECTOR··· NOW LISTEN TO THE SAME PROSPECTS····
I'M STARTING MY OWN COLLECTION AGENCY···I COLLECT THE BAD DEBTS PEOPLE OWE YOU AND I ONLY CHARGE YOU TEN PER CENT····
WHAT DO I NEED A COLLECTION AGENCY FOR? I DO STRICTLY A CASH BUSINESS··· THE KIND OF CUSTOMERS I HAVE PAY RIGHT ON THE BARRELHEAD··· I HAVEN'T GOT A DIME OUTSTANDING····
THANX AND A TIP OF THE HATLO HAT TO LARRY WILLIAMS, 885 DELAWARE RD., KENMORE 17, N.Y.
12-8
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Home Heating with 'Juice' Is Becoming Juicy Proposition

ELECTRICAL industry people refer to their prime commodity, current, as "juice." Although home heating *via* electric current is in the incubation stage, it does have the taste of becoming a sweet, juicy, business even now.

Of America's 46 million centrally heated houses, approximately 500,000 are heated electrically. Not many, you say? Well. . . .

Eight years ago only 100,000 houses enjoyed electric heat, and probably 90% of those were located in areas served by T.V.A. and the Bonneville Dam, where power rates are subsidized and low.

Last year more than 50,000 householders installed electric heat, as compared to 20,000 in 1957. Good? Yes, but looky here: It is predicted that the present total of 500,000 electrically-warmed homes will stretch upward toward the two million mark by 1965!

Now there is a promising growth curve!

These unique electrical home heating systems are composed of two types—resistance and heat pump. At least 90% of all electric-heat systems in service today are of the resistance variety. They create heat by pulling electricity through wires in walls and baseboard fixtures, or copper coils imbedded in plaster ceilings and concrete floors.

Big bonus for users of electric heating is the elimination of furnaces, chimneys, radiators, soot, ash hauling, and the like. It's *clean heat,* automatic and dependable.

General Electric's 1958 sales of resistance-type units rose 70% in 1958 above the previous year, and its heat pump volume barrelled upward 50% over 1957. Westinghouse resistance heating sales last year were 20% ahead of 1957. At the same time its heat pump sales were a whopping 100% more than registered in 1957. These are but two examples of a promising trend.

Number of firms which manufacture electric home heating equipment has risen from 45 five years ago to 75 at present, according to the National Electrical Manufacturers' Association. These producers haven't made much noise yet, but you'll be hearing from them more as time goes on.

This whole deal is welcome to electric utilities, of course. It increases their sales of "juice" and, in the case of resistance heating, ups their delivery curves during winter months when they have excess generating capacity to worry about.

In the midwest approximately 16,000 kilowatt hours of electrical current are required annually to heat a five-room home. That's five times as much "juice" as the average homeowner consumes for all other purposes (lighting, appliances, TV, etc.).

This results in a comparatively high operating cost which, incidentally, is considered by some to be a deterrent to sales of electric home heating systems.

It costs about $250 per heating season to warm a small home with resistance equipment—in areas where snow falls regularly. Same probably could be heated with $160 worth of oil or $130 worth of gas.

Utilities are attacking that operating costs problem by trimming the price of "juice" for these installations. More than a hundred electric utility companies offer special reduced rates for home heating.

Those which have cut their rates for this worthy purpose usually discover that they have doubled the number of electric heating units on their lines within one year following the "promotional price" inauguration. Detroit Edison Co. and Central & Southwest Corp. (Texas, Oklahoma, Louisiana, and Arkansas) are prime examples.

In addition to rate cuts, utilities are advertising electric heat strongly. Commonwealth Edison of Chicago, for example, spent $560,000 last summer on a campaign which succeeded in boosting the number of electrically-heated homes on its lines to 1,300 (as compared to 150 in 1957).

Moreover, Chicago's Commonwealth Edison provides architects, consulting engineers, builders, and contractors with special engineering services. Project builders, in addition, are offered up to $100 per house toward defraying charges for the installation of an electric heat system.

Quite a few home builders favor electric resistance heat, because it gives home buyers more living space, and often raises builder profits. You see, with electric heat home construction costs are cut over-all—because there is no furnace, chimney, nor warm-air-carrying ductwork in the houses. Furthermore, the heating and wiring work can be done by the same contractor.

When a house is electrically heated, a builder also adds *all electric* appliances—including refrigerator, water heater, range, etc. No wonder electric utilities love it!

Further development of this form of heating obviously has a great deal of interest and promise for the trade. The NEWS will watch it closely, and report on it.

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'The Conscience of the Industry'

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TEXT BOOK IN SPANISH IS GOOD — BUT NOT NEW

Carrier Corp.
International Div.
Miami, Fla.

Editor:

In the report on education Number 11, I noted that a Mr. Jamie Ferreria of Portugese West Africa is looking for an air conditioning course in Spanish.

To my knowledge, there is no up-to-date course in air conditioning either in Spanish or in Portugese. Sr. Ferreria might be interested in the Spanish edition of "Modern Air Conditioning, Heating and Ventilating" by Carrier, Cherne and Grant.

This well known text has been translated into Spanish by a group of engineers in Spain, and it is by far one of the best texts on air conditioning. Another added advantage is that all problems, dimensions, etc. are in the Centigrade and metric systems which makes air conditioning far easier to understand to our European friends.

The Spanish title of this text is "Acondicionamiento de Aire, Calefaccion y Ventilacion" and is available from Editorial Reverte San Magin, 26, (Lesseps), Barcelona, Spain.

J. R. MARTIN

LIKES EDITOR'S HUMOR, PHILOSOPHY

Engineering Sales Co.
Manufacturer's Agent for
Air Conditioning & Heating
Atlanta 9, Ga.

Editor:

Your humor and philosophy of life have surely touched more people than you can realize. As a reader of the NEWS for four plus years now, I have thoroughly enjoyed and benefited from your writings. I admire the unabashed way in which your Christianity shows in your Editorials.

Thank you, and keep up the good work.

TOM JONES, JR.

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FTC Says Kelvinator Pricing Practices Favor Some Retailers

WASHINGTON, D. C. — The Federal Trade Commission has charged American Motors Corp., a major manufacturer of electric appliances, with giving favored retail customers illegal price advantages over their competitors.

Also named in the FTC's complaint is American Motors' wholly-owned subsidiary, American Motors Sales Corp., which sells the parent's "Kelvinator" and "Leonard" appliances from 16 zone offices throughout the country, the commission said.

During the past several years, including 1956 and 1957, the complaint charges, certain retailers were charged about 5% less than other competing retail customers. Concerns allegedly receiving these lower prices include B. F. Goodrich Co., Akron, Ohio; Consumers Power Co., Jackson, Mich.; and Alabama Power Co., Birmingham, Ala.

The effect of these price discriminations has been substantially to lessen competition between the favored and non-favored retailers, the complaint concludes.

The respondents are granted 30 days in which to file answer to the complaint. A hearing is scheduled March 17 in Detroit before an FTC hearing examiner.

Kelvinator Says Function of Firms Justifies Price

DETROIT — Federal Trade Commission allegations of price advantage to three merchandising distributors by the Appliance Div. of American Motors Corp. are without foundation, according to H. L. Travis, vice president in charge of Kelvinator sales.

"Kelvinator's reputation with its distributors and dealers over the years is its most valued possession," Travis said.

"We welcome and have encouraged efforts to improve merchandising practices in the appliance industry. However, despite FTC knowledge of our policies, extending over a period of years, at no time has it criticized any aspect of our pricing, and has never asked us to change our practices.

"The point at issue is simply whether these three merchandising distributors, who perform both wholesale distributive and retailing functions, should pay a lower price, to cover their additional costs, than conventional retailers who perform no wholesale distributive functions.

"We believe a difference is justified, and have operated in this manner for years without criticism or complaint, as have nearly all other companies in the appliance industry.

"We do not believe a charge of this nature by the FTC, without prior consultation, contributes anything to the solution of the fundamental problems of the appliance industry."

45% of ARI Show Space Sold, Previous Exhibitors Get Priority 'til Mid March

WASHINGTON, D. C. — About 45% of the exhibit space available for the Eleventh Exposition of the Air-Conditioning & Refrigeration Institute in Atlantic City in November has been sold to ARI member-companies, it was announced recently by R. H. Luscombe, Exposition Committee chairmain, following a committee session at which spaces were assigned.

"This means that only about 55%, or 50,000 sq. ft. of space, is available for assignment to non-ARI members, unless, of course, we enlarge the total space planned for the exposition," Luscombe said.

Dates for the show, to be staged in Atlantic City's auditorium, are Nov. 2-5, 1959.

Space is now being offered to non-ARI members who have exhibited in previous shows staged by the institute and its predecessor organizations. These previous exhibitors, many of whom already have made inquiries and applications for space in the 11th Exposition, will be given priority in assignment of space until mid-March, when the remaining areas will be offered for general sale.

Meanwhile, Mills said, special promotional efforts are under way to increase attendance at the show, particularly by consulting engineers, architects, builders, government personnel, chain store purchasers, and others who constitute a large part of the market for the vast array of equipment which will be displayed.

"In previous shows these purchasers and specifiers have made up the bulk of attendance at ARI expositions, along with the manufacturers of 'end products' who come to see the components and equipment displayed by their manufacturers," it was noted. "Because of the importance of this market, it is planned to expand even the efforts of past years to attract them to the ARI show."

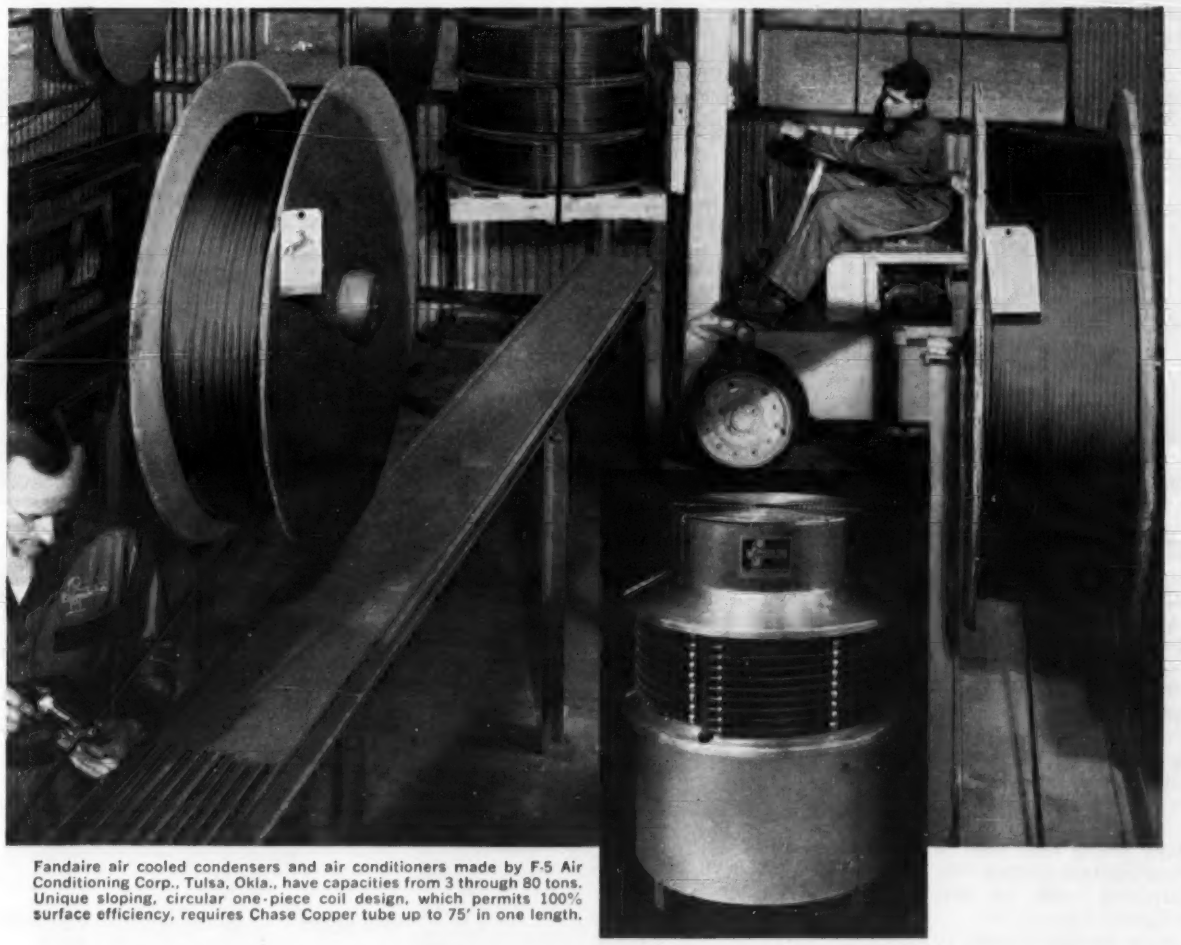
While plans have not been completed, it has been suggested that ARI stage a series of conferences in connection with the exposition, at which recognized experts in various fields of interest to members of the show audience will discuss some of the problems they face.

Catlett Retires As Active Head Of Richmond Firm

RICHMOND, Va. — Retirement of Richard H. Catlett from active management and the election of Carlton M. Southworth as director and secretary of Catlett-Johnson Corp., veteran contracting firm here, has been announced by John C. Hildebrand, Jr., president.

Catlett, who founded the company in 1936, continues as chairman of the board, but otherwise will serve the firm only in a consulting capacity.

Southworth purchased the stock interest of Ralph E. Orcutt, who has resigned. Other company officer is J. Tabb Meyer, Jr., vice president.



Fandaire air cooled condensers and air conditioners made by F-5 Air Conditioning Corp., Tulsa, Okla., have capacities from 3 through 80 tons. Unique sloping, circular one-piece coil design, which permits 100% surface efficiency, requires Chase Copper tube up to 75' in one length.

New Chase throw-away reel makes six-way saving

Air conditioning manufacturer reports results using 3/8" and 5/8" tube shipped on disposable units

Since Chase introduced its new, convenient disposable reel for shipping small size refrigeration tube, savings have been reported by manufacturers all across the country. Here's a typical story:

1. Scrap losses cut from over 2% to less than ½ of 1%!
2. Easier inspection of tube on receipt.
3. High-speed reeling-off of long lengths without any chance of kinking or fouling.
4. Tube is much straighter, reducing and making easier the straightening operation required before use.
5. One-man machine loading of up to 1700' of tube without any chance of damage or distention of the tube coil.
6. Reduction of storage and handling problems since it requires less space.

Ask your nearest Chase Representative about extra long lengths of copper refrigeration tube packed on the new disposable reel that simplifies storage and ends reel return problems, protects tube quality and gives you appreciable production-line savings. Or write Chase at Waterbury 20, Connecticut.

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BRASS & COPPER CO.
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Managing Money

Always Take Cash Discounts, Keep Your Capital Moving, Don't Hold Onto 'Dogs,' Get Daily Cash Report, and Retain Enough Profits for Growth, Contractor Advises

What are the elements of "good management" for the air conditioning and refrigeration and heating dealer or contractor?

There are many elements that go into "good management" for this kind of a business, but it would seem that the three principal ones would be (1) the development of the kind of salespower that will develop enough sales volume to operate the company profitably and promote expansion; (2) proper control of expenditures and services to ensure an adequate profit; (3) proper direction and handling of personnel to promote growth in the business and retention of good personnel.

In this series of articles the NEWS has drawn from a variety of sources to present some of the best current thinking on some specific elements that make for success.

MIAMI BEACH, Fla. — Six things that any good businessman will do to make his capital work to his best advantage were checked off by Wilbur S. Hoyt for delegates to the 12th annual convention of the National Commercial Refrigerator Sales Association here recently.

Hoyt is president of Hoyt Refrigeration, Inc. in Lecompte, La.

Businesses make money, he emphasized, by knowing how, where, and what they are doing so their owners can know how to invest their capital best.

Checklist for Ensuring Good Money Management

His checklist for ensuring good financial management:

"1. Always take your cash discounts.

"If your sales for the year are $300,000 and $120,000 represents the cost of material, then $2,400 or 2% is available in cash discounts.

"If you purchase $10,000 worth of material and lose your cash discount by paying on the 30th of the month instead of the 10th, then you are paying 2% interest for 20 days borrowing. This would be equivalent to 36.5% interest on an annual basis.

"If you could borrow at 6% a year the $10,000 that you need to take your cash discount, you would save 30% interest. In dollars, you would have a cash discount of $200 per month ($10,000 × 2%), or $2,400 per year, against bank interest of only $600—or a total benefit to you of $1,800.

"2. Get a daily cash report from your bookkeeper. By watching these figures on a daily basis you can always take necessary corrective action in time.

"3. Have proper insurance to protect you against sudden loss or catastrophe, such as fire, theft, or public liability.

"4. Retain enough profits in the business for growth.

"5. If you are short of working capital, don't tie up working capital in fixed assets.

"6. Meet with your banker twice a year. Bring your financial statement and discuss your operation with him. He will be in a much better position to lend you money if he understands how your business is going, and if he has a chance to talk to you at a time when you don't need money, as well as when you do."

Cash Turnover Is Vital As Blood Circulation

Hoyt declared that improper management of cash has proved the downfall of many an otherwise successful business.

"Cash turnover is as essential to your business as blood circulating in your body is to your life," he asserted. "No other phase of your operation is more important.

"The working capital cycle, or cash turnover, goes like this:

"1. Cash buys labor and materials.

"2. Labor and materials become work in process and inventory.

"3. Upon completion of a job, work in process and inventory become accounts receivable.

"4. Accounts receivable, after collection, become cash.

"And so the cycle is completed. This process continues day after day in your business. Each step in the sequence is importance. Any slowdown or conversion of inventory into accounts receivable, or accounts receivable into cash, will create a shortage of cash.

"I am sure most of you have heard grocermen say they don't make anything on milk. They usually make 2¢ per quart or more. At 2¢ cents per quart, 2¢ × 6 days = 12¢. 12¢ × 2 weeks = 24¢ or 100% every two weeks or 200% on their investment per month.

"The average grocerman will tell you his highest profit in the store is some houseware, drygoods, or hardware items which they may turn over four or five times a year. That is they make 300% to 400% per year on those items while at the same time he will be making 2400% on his investment of milk.

"If working capital is short, wouldn't it be better for him as well as us to invest our money in an item that turns over faster than in slower moving merchandise?

"Gentlemen, it is not advisable to hold an item on your display floor long enough to grow whiskers. Get rid of the cats and dogs at some price and put your money into something moving.

"Abraham Lincoln once said, 'If we could first know where we are and whither we are tending, we could better judge what to do and how to do it.'

"As I often tell my customers, if you start on a trip to New York and head out in the direction of California or Key West, it will take you much longer to get there.

"If you, in your business, are heading out to make a profit, you should head in the right direction; that is, by letting us

SCOTSMAN —

THE ROYAL LINE FOR FIFTY-NINE

World's most Complete Line of

ICE MACHINES

plan, design, and merchandise your store, giving you the greatest profit on the amount of investment made.

"We work with our customers on any amount of investment they want to make and advise them on what will make them the fastest return on their money. If you advise them correctly, over 75% will call on you for future investments and remodeling jobs.

"Gentlemen, I am sure most of you are doing this for your grocerman, but who is doing this for us as refrigeration distributors?

"June 5, 1957, a friend of mine walked into my office. After the usual greetings, he informed me he had recently changed jobs and was now associated with a business engineering firm.

"Being the 'Country Boy' that I am, he had to go into detail to explain that they send a survey man to your firm for a few days to make a survey of the business; after which, he would make recommendations as to how to improve the entire operation.

"Then if you desire, their engineers come and set up the changes recommended at an additional cost.

"The cost of the survey man was $100.

"My thought was: How can some joker come in here and tell be how to run my business, when I have been in the refrigeration business 19 years and he has never done more than eat a piece of meat from a refrigerator?

"However, after a few minutes thinking, having confidence in the man who was representing them and knowing how much we can help small independent grocers, I agreed to invest a hundred dollars in a survey.

"In the first 15 minutes the survey man was in my establishment, he saved me $2,000 on the cost of an improvement I was planning to make, with an additional savings of a few hundred per year for the balance of the business's life.

"After this, he didn't have much trouble selling me on the idea of using their engineering services. That is, providing a complete bookkeeping setup, job costing, perpetual inventory, burden rate, growth structure, etc.

"After a year and one-half use of their service, I can truthfully say it was one of the best investments I have ever made."

Hoyt emphasized that to make your capital work effectively, know how your business is doing. That means, he said, getting a monthly profit and loss statement, perpetual inventory, job cost on every job, a daily record of cash on hand and in the bank, accounts payable, and a record of accounts and notes receivable.

Braun & Walters Is New Cincinnati Firm

CINCINNATI — William H. Braun and William H. Walters announced the organization of Braun & Walters, Inc., mechanical contractor, with offices and warehouse at 3363 Reading Rd.

The new firm is headed by William Braun as president; Walters, vice president; and Harry J. Hocks, Sr., secretary-treasurer.

According to Braun, the firm will specialize in furnishing and installing heating, ventilating, and air conditioning equipment in industrial and commercial buildings.

Braun was a sales manager of the plumbing and heating divisions of Mutual Mfg. & Supply Co. Walters was a heating, piping, and air conditioning engineer for Geiler Plumbing & Heating Co.

'L' Award Winner

"L" AWARD WINNER for 1958 in the Fort Worth, Texas area, John Heitzman is being pinned by Lou Matetich, Lennox Industries, Inc. sales manager for the Fort Worth region. "L" award is given salesman doing the best all-around job for the year.

Remington Elects E. Moise Johnson To Vice Presidency

AUBURN, N. Y.—E. Moise Johnson, southern sales manager, was elected vice president of Remington Corp., Herbert L. Laube, president, announced.

Johnson makes his headquarters in Atlanta. On Nov. 30, 1958, he completed 10 years with Remington in the engineering and sales divisions. He is an Engineering graduate of Clemson (S. C.) college.

As vice president, Johnson will continue to direct the application, sales, and service of Remington air conditioning products in the southern half of the country and participate in the formulation of national sales policies, Laube stated.

Norge Creates 2 New Marketing, Sales Posts

CHICAGO—Walter C. Fisher has been appointed director of marketing and James D. (Dan) Dougherty sales manager for Norge Div., Borg-Warner Corp.

Fisher will be responsible for all Norge home appliance advertising, merchandising, home service, and other marketing operations. Dougherty will direct all Norge distributing and field sales force operations. Harold P. Bull, Norge vice president of sales, said the positions were new.

Fisher and Dougherty have been with Norge since 1954, in a number of sales and merchandising positions.

Also announced was the appointment of Frederick T. Kelsey as director of contract sales. He has been midwestern regional manager for Bigelow-Sanford Carpet Co., Inc.

Morrison Promotes Peter Kardos

CLEVELAND—Peter Kardos has been promoted from project engineer to chief engineer of Morrison Products, Inc., manufacturer of blower wheels and assemblies, according to Thompson Morrison, president.

Kardos succeeds Alexander Galaba, who will now devote his full time to his activities as vice president for sales.

A graduate of Budapest Technical university, Kardos served as plant manager for several large Hungarian industries. He has been at Morrison Products two years.

FOOD SERVICE

TAVERNS AND LIQUOR STORES

FOUNTAINS AND DRIVE-INS

PROFIT King

IN EVERY ICE MACHINE MARKET!

HOSPITALS AND INSTITUTIONS

HOTELS AND MOTELS

INDOOR AND OUTDOOR THEATRES

SERVICE STATIONS

Plus . . .

SCHOOLS

SUPERMARKETS

CAFETERIAS

CLUBS

and many other ice users!

WEAR THE GOLDEN PROFIT CROWN by selling Scotsman Ice Machines! This year make *king size sales* by selling the world's largest line . . . there are more than 50 money-making Scotsman models! You make easier sales with Scotsman too because Scotsman is advertised, promoted and sold in every ice machine market! And remember: You're backed by the leading company of ice specialists whose *sole business is making quality ice machines!* Become a profit king in '59 with Scotsman—send coupon today for complete details on a Scotsman franchise!

● *Send me complete information about a dealer franchise for Scotsman Ice Machines*

NAME_____

ADDRESS_____

CITY_____ ZONE____ STATE_____

Mail to: **SCOTSMAN,** *Queen Products Division • King-Seeley Corporation*
202 Front Street • Albert Lea, Minnesota

Builders See What's New In Air Conditioning and Refrigeration

HOW DUCTLESS AIR PURIFIER uses activated charcoal to remove home odors is demonstrated to Mrs. Hugh Aiken of W. Conshohocken, Pa. by Orville Meland, sales representative for Ductless Hood Co. The new purifier, now in production, circulates 150 c.f.m.

NEW FORCED AIR electric baseboard to provide more heat in the lower three feet of a room is introduced by Hunter Div., Robbins & Myers, Inc. J. P. Beattie, engineer (l.), indicates blower wheel for Jack Scelza of Newington, Conn.

NEW ELECTRIC FURNACE by Majestic Co. being examined by Howard G. Van Scoy, district sales manager for Majestic (l.), and Richard Walter of Menominee, Mich., provides same heating capacity as larger gas and oil furnaces flanking it. Blower is below, while air conditioning coil can be mounted on top.

Here Service Counts...

Baby needs service *now!* And when you have a motor drive problem for appliances or equipment, service counts! Emerson-Electric has power-drive specialists (more than 100 engineers!) instantly available to give you *on-the-spot service* from design through application runs.

Remember:

- Emerson-Electric produces *custom-engineered* motors to suit your *specific needs.*
- Emerson-Electric has more than 65 years' experience in meeting motor-drive requirements *like yours.*

For service that counts, call, wire or write Dept. M-346 today. The Emerson Electric Mfg. Co., St. Louis 21, Mo.

EMERSON-ELECTRIC

of St. Louis · Since 1890

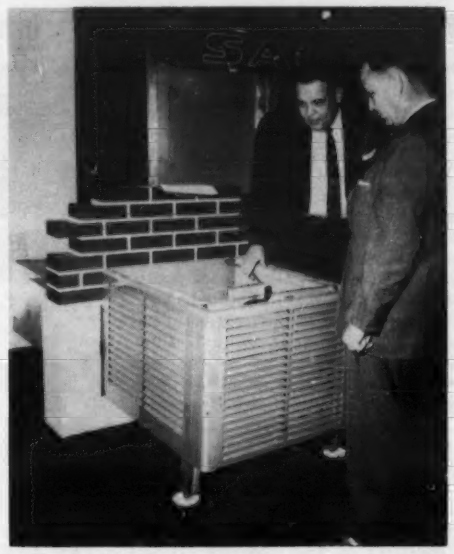
"PROFESSIONAL" series gas furnace in five sizes with capacities of 80,000 to 160,000 B.t.u.h. was introduced by Stewart-Warner Corp. As protection for children, it requires a screwdriver to open door at bottom. Joe Johnson, S-W district sales manager (l.), shows unit to Harry R. Jones of Arlington Heating & Sheet Metal Co., Arlington Heights, Ill.

NEW GAS FIRED, cast iron hydraulic boiler rated at 95,000 B.t.u.h. input and 76,000 B.t.u.h. output was exhibited by Hydrotherm Inc. For volume water heating applications, it will raise 90 gals. of water by 60° F. each hour.

CONTROLS ARE ENCLOSED but easy to get at in General Electric's new "Thinline" through-the-wall air conditioner, demonstrates Rosemary Meyer.

For additional details on these products shown at the National Association of Home Builders conclave in Chicago please write to the manufacturer. Additional pictures will appear in future issues.

NEW GAS-FIRED PACKAGED boiler with 560 ft. of hot water radiation and all controls packaged within the jacket itself is demonstrated by W. Lorentz, heating and air conditioning sales manager for Rheem Mfg. Co.



FIRST SHOWING of American Furnace Co.'s self-contained air-cooled compressor-condenser-evaporator unit for through-the-wall installation in homes draws Richard A. Cromwell, vice president (l.), and Walter Weiss, product application engineer, to answer questions.

SAM BOYD, former head football coach at Baylor university (l.), warms up to his new duties as national sales manager for Cobell Industries, Inc. by telling Ray Behrmann of Radi-Heat Co., St. Louis, about the new "Rangeaire" remote air conditioning unit with upflow gas furnace.

APPLIANCE WALL is latest showpiece by Hotpoint, Inc. Mary Pastor poses by refrigerator-freezer area with 7-cu. ft. refrigerator at top and 7-cu. ft. freezer below. In foreground are sanitation area and food preparation area. All elements recess into wall.

NEW VENTED recessed gas wall heater for gravity and counterflow operation is announced by Monogram Industries, Inc. (formerly Quincy Stove Mfg. Co.) Unit is flanked by Herman D. Tow, vice president of sales and V. W. Affolder, sales representative.

WATSCO presents THE NEW derco TERMINAL SEAL

PART NO. T-300-B

Seals terminal leaks on sealed units instantly and permanently right on the job

CHECK THESE FEATURES

- Overall height short enough to allow terminal cover replacement
- Installed in just 3 minutes
- Bakelite body—not affected by temperature changes
- Each seal has its own electrical connector
- Cannot short out
- Each seal has a nylon insulator cap for added electrical protection
- High dielectric strength

U.S. PAT. NO. 2,451,701 & ADD. PAT. PEND.

DESIGNED FOR USE ON THE FOLLOWING UNITS

Coldspot, Copelametic, Crosley, Frigidaire, General Electric, Gibson, Kelvinator, Montgomery Ward, Norge, Servel, Tecumseh, York, etc.

SPECIAL NUT REMOVER

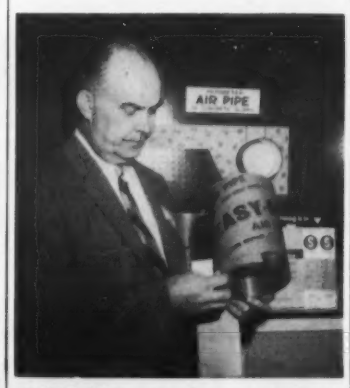
Included in each set of **derco** seals, AT NO EXTRA CHARGE, is a time and labor saving tool, specially designed by **derco** to facilitate the removal of frozen or rusted nuts from the terminal posts. This duo-purpose tool may also be used for tightening the terminal seal on the dome — A must for all servicemen.

Send for Illustrated Catalog Dept. N-2

WATSCO INC.

1020 EAST 15th STREET, HIALEAH, FLORIDA

SEE, IT'S only 10 in. wide, boasts Robert K. Miller, president of Holly-General Co. This gas furnace puts out 58,000 B.t.u.h.



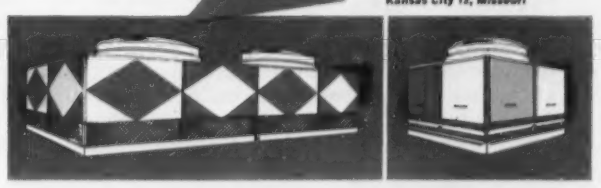
"EASY-MOLD" air pipe for perimeter heating and air conditioning installations that has an aluminum foil liner for smoother air flow is exhibited by John M. Hayes, president of Appleton Mfg. Co.

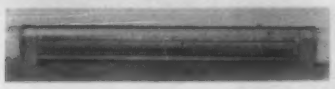
Decorative Cooling Towers...

Now, a cooling tower can be an attractive, functional part of a building instead of an object you'd like to hide . . . if it's a Panelramic tower by Pritchard. This new concept in cooling towers features colored panels that lend themselves to a wide variety of architectural treatment. Panels can be used to blend the tower with color scheme of the building, to serve as a distinctive company identification sign, or as a design element in the silhouette of the building. You save your client the cost of masonry enclosures and other expensive devices for camouflaging eyesores.

Panelramic Towers are available in a wide range of capacities and choice of panel materials. Plastic panels, for example, can be furnished with designs or colors permanently bonded in the material. Descriptive bulletin gives additional details. Write for free copy.

J.F. Pritchard & Co.
OF CALIFORNIA
4625 Roanoke Parkway, Dept. 124
Kansas City 12, Missouri





Electric Baseboard Heaters Announced

● An addition to its line of electric heaters with the production of an all new baseboard heater has been announced by Thermador Electrical Mfg. Co., Dept. AH&RN, 5119 District Blvd., Los Angeles 22.

This heater features slim design, low installation cost, and a large heat transfer are (500 sq. in. per lineal foot), the manufacturer indicated.

Thermador electric baseboard heaters range in size from 54¼ in. to 121¼ in. in length and in wattage from 1,000 to 3,000. It is U.L. approved for surface or ¾ in. recessed mounting. Thermostats are available in single or double-pole models for wall or baseboard mounting.

Switch Offers Faster, More Reliable Control

● Faster and more reliable remote control of air conditioning, heating, and ventilating motors and valves is possible with a new positioning switch that eliminates lag between the switch and the actuator mechanism, according to Powers Regulator Co., Dept. AH&RN, 3434 Oakton St., Skokie, Ill.

The switch is 20% smaller than earlier models, allowing more compact flush or surface mounting on panel boards, the company said.

"The switch is used primarily for remote control of pneumatic valves or motors, such as those on dampers and in air conditioning units," it was pointed out. "Turning the switch knob gradually increases or decreases the flow of compressed air to these devices, opening or closing them to the desired position.

"Hysteresis, or the lag between a switch position change and the corresponding air pressure change, has been eliminated by using a responsive ball valve instead of a needle valve in the switch."

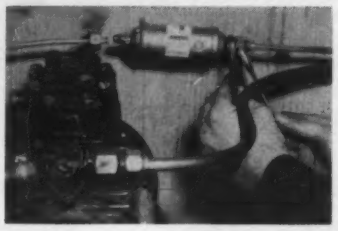
Including face plate, the switch is 2⅝ in. wide by 3⅜ in. high by 2¼ in. deep. It is available for either flush or surface mounting. Body air connections are for 1/16 in. NPT. Switch is supplied with flexible air hoses having terminal connections for ¼ in. o.d. tube. Three standard dial styles are available, plus optional dial plates.

Want More Details?

ADDITIONAL details on products that are described on these pages may be obtained by writing the manufacturer at the address given in each What's New story.

Tell him: "AH&RN sent me!"

Introduces In-Line Refrigeration Driers



A 4-cu. in. Ansul Line-Flo drier installed in a commercial application.

● Introduction of in-line refrigeration driers as the newest addition to its group of refrigeration products has been announced by Ansul Chemical Co., Dept. AHRN, Marinette, Wis.

Under the trade name "Line-Flo," the driers are offered in 2, 4, and 6-cu. in. sizes.

"All Ansul driers contain 'Andrite,' Ansul's field-proven 100% jel-type activated alumina," it was noted.

Line-Flo driers will be offered with ¼ or ⅜-in. fittings for the 6-cu. in. size, and ¼-in. fittings for the smaller sizes. The driers have special "Dutch Twill Weave" monel inlet and outlet screens to take damaging solids out of circulation, the company said.

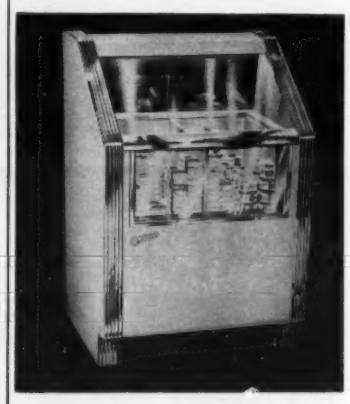
Where flow rates are normal, Line-Flo driers can be used in refrigerant applications up to a 25-lb. charge for "Freon-12" or a 9-lb. charge for "Freon-22," it was stated.

Ansul continues to offer "T-Flo" refrigeration driers in 8, 12, 20, and 30-cu. in. sizes.

Rupture Disc Eliminates 'Fatigue Factor'

● Black, Sivalls & Bryson, Inc., Dept. AH&RN, 7500 East 12th St., Kansas City 26, Mo., a pioneer in the development of rupture discs for pressure relief, announced a new style sealed-type safety head that is said to permit the normal working pressure of a refrigerant system to be as high as 75% of the predetermined set point of the rupture disc.

The new disc design virtually eliminates the "fatigue factor"—permitting uninterrupted service during peak cooling periods, the company claims.



Coldin Candy Case Converts to Self-Serve

A new low temperature ice cream novelties merchandiser is being offered for the theater trade and also to candy manufacturers for the merchandising of frozen candies and other products, it was announced by National Accounts Div., Coldin Cabinet Co., Inc., Dept. AC&RN, 2800 Webster Ave., New York City 58.

This unit is equipped with rubber casters so it can be spotted in strategic locations, and is available in colors.

It can be converted to self-service by the removal of the front glass. It is powered by ¼-hp. hermetically-sealed unit.

Outside dimensions: Height, 46 in.; width 30 in.; depth 26½ in., according to the company's announcement.

BEFORE YOU BUY, THINK:

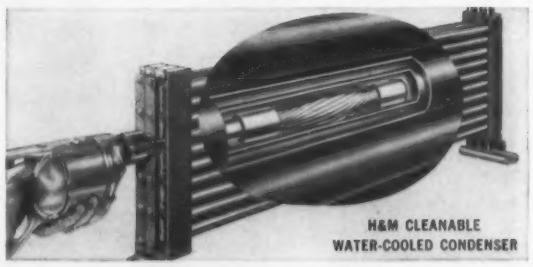
Will acid upset your cooling water system?

NOT if your water-cooled refrigeration condensers are cleanable mechanically like Halstead & Mitchell's

Scale and sludge deposits seriously reduce heat transfer in condensers and affect system performance unless removed. Deposits can be cleaned from H&M water-cooled condensers safely with a simple, mechanical tool—faster, more completely and at less cost! No need to risk acid damage to condensers, cooling towers and pumps.

Halstead & Mitchell condensers have brass headers which are easily and quickly removed for cleaning. Seamless copper tubing is arranged in double-tube design for true, positive counterflow heat exchange. U/L approved, condensers are readily set up in racks with multiple condensing units. Ask your local wholesaler for complete information, or write to Halstead & Mitchell, Bessemer Building, Pittsburgh 22, Pennsylvania.

Water-Cooled Condensers · Cooling Towers · Air-Cooled Condensers · Finned Coil Products



H&M CLEANABLE WATER-COOLED CONDENSER

Halstead & Mitchell

IMPROVED HYDŌ HOLLOW CONE SPRAY NOZZLES CAN'T CORRODE

Spraying Starts Below ½ PSI Injection Molded of "Tenite" (Butyrate)

NOZZLE NO.	IPS	GPM AT & PSI	SPRAY ANGLE
H .8	⅛"	.8	60°
H 1.0	⅛"	1.15	75°
H 1.8	¼"	1.8	90°
H 2.5	¼"	2.5	100°
H 3	¾"	3.3	76°
H 5	¾"	5.0	85°
H 7	¾"	7.0	100°

AUSTIN MANUFACTURING CORPORATION
305 Perry Brooks Bldg. Austin 1, Texas

Men on the Move . . .

York Div., Borg-Warner Corp.—OSCAR E. FOX, formerly supervisor of quality control, has been named manager of quality control and inspection. He succeeds F. E. DENNISON who is retiring.

Wolverine Tube, Div. of Calumet & Hecla, Inc.—CHARLES M. RHODES has been appointed sales representative in the Birmingham, Ala. district. He will cover North and South Carolina and upper east Tennessee from headquarters in Charlotte, N. C.

Joe Thiele, Inc. (San Antonio)—ADDISON J. MARTS has been appointed vice president and general sales manager of this distributing firm. He has been Zenith sales manager for Thiele.

Drying Systems Co. (Chicago), **Div. of Thor Power Tool Co.**—B. ARTHUR RUSSELL, executive vice president since 1953, has been elected president and treasurer. BUFORD B. RUSSELL becomes chairman of the board after 24 years as president and general manager. RUSSELL H. BURGESS has been elected vice president in charge of the air conditioning and cool-heat department and DAVID WEISSMAN vice president in charge of the food processing department.

Montgomery Ward & Co.—Appointment of WILLIAM D. KIESEL as buyer of air conditioners and dehumidifiers has been announced. He succeeds JOHN L. REYNERTSON, whose promotion to buyer of laundry equipment was announced last November. Kiesel has been assistant buyer of ranges for the past year.

Independent Air Conditioning Corp. (Little Rock, Ark.)—HAROLD G. ORR has been named "Weathertron" sales engineer. For the past three years he has worked on promotion and installation of Weathertron heat pumps.

Keco Industries, Inc. (Cincinnati)—HAL K. JENNINGS has been appointed director of Keco's new commercial and industrial contracts division (for air conditioning, heating, and ventilating) recently franchised by Westinghouse Electric Corp. For the past 10 years he has been vice president of the Kuempel Co.

Phelps Dodge Copper Products Corp.—K. F. PACKARD is being transferred from the New York offices to be manager of the new district office in Denver which will represent Phelps Dodge sales to distributors, manufacturers, and utilities in Colorado, Wyoming, and New Mexico. A. L. SOULE III has been named manager of distributor sales for the Chicago district. He was previously branch manager of the Birmingham, Ala. office.

EDWARD H. MICHAELSEN has been elected vice president. He will head up the company's international activities. Three new branch managers have been named: T. L. ADAMS at Atlanta, B. H. BELL, JR. at Birmingham, Ala., and CLYDE F. REED at Jacksonville, Fla.

Marble Corps. (Gladstone, Mich.)—WILLIAM VAN BLARCOM was elected president, succeeding JOHN ZERBEL. Van Blarcom was formerly manager of Bell & Gossett Co.'s Longview, Texas plant. Bell & Gossett acquired controlling interest in the Marble organization in 1957. One of the two operating units makes electric motors.

Kelvinator Div., American Motors Corp.—Appointment of CARL F. ZEMAN as traffic manager of the Grand Rapids plant was announced. He has been traffic manager of Kelvinator's Peoria home laundry manufacturing subsidiary, Altorfer Brothers Co., since 1951. Work at the ABC plant is being terminated and laundry production has been transferred to Grand Rapids as part of a major Kelvinator consolidation move.

NORMAN F. T. SAUNDERS has been appointed managing director of Kelvinator, Ltd., Bromborough, England. He has been general manager of Coldair, Ltd.

Carrier Corp.—DAVID W. JASPER has been elected vice president and designated general counsel. He joined Carrier in 1953 as head of the legal department and general attorney.

Sturtevant Div., Westinghouse Electric Corp.—CHARLES J. MOLL has been appointed southwestern regional manager. He goes to St. Louis from the Westinghouse Philadelphia office where he was a sales engineer for Sturtevant.

Kennecott Copper Corp.—WILLIAM H. PRESTON was elected executive vice president of Chase Brass & Copper Co., a subsidiary.

Wilson Supply Co. of Baltimore, Inc.—EDGAR KAUFMANN has joined the organization as sales manager of the Appliance Div. He recently liquidated David Kaufmann's Sons, Inc., appliance distributor, of which he was president. He will establish a dealer organization in the Baltimore marketing area for Airtemp room air conditioners.

Acme Industries, Inc.—Named sales engineers were GEORGE J. SCHULZ, HOWARD W. WARD, BOB CAROW, and CHARLES M. COLYER. Schulz, formerly with Murphy & Miller of Chicago, and Ward, formerly with Lowden & Co. of Chicago, will work in that area. Owner of Bob Carow Co. of Lubbock, Texas, Carow was appointed sales engineer in the Texas Panhandle territory. Colyer is Acme's new sales engineer in South Carolina. He has been associated with Paul Stack Sales Co. of Charlotte, N. C. in the Greenville area.

Detroit Stamping Co.—WILLIAM H. ROBERTS, vice president in charge of the Finished Products Div., has been named executive vice president. HARRY C. ROBESON, recently stampings sales manager, was elected to vice president in charge of sales of all products. HERBERT McMILLAN has been appointed sales manager of the Stamping Div. and CHARLES HOPPE becomes sales manager of the Finished Products Div.

Cory Corp.—JEROME S. WEISS, an officer of Cory, was elected to the board to succeed A. J. Alsdorf who died last Nov. 6.

Dunham-Bush (Canada) Ltd.—J. S. MICHENER was appointed western district manager. He will headquarter in Edmonton.

Universal Cooler Co., Ltd. (Brantford, Ont., Can.)—LLOYD G. McKEE was elected president at a special general meeting of shareholders.

Amana Refrigeration, Inc.—JULIUS C. FARLEY, JR. has been appointed regional sales manager, New York area. Prior to joining Amana, he was vice president, branch manager for Philadelphia and the east coast for O. A. Sutton Corp.

The Williamson Co.—DAVID E. SEDGWICK has been appointed district manager in Minnesota, North and South Dakota, and parts of western Wisconsin and northern Iowa. He was formerly associated with Waterman-Waterbury Co. of Minneapolis. His home address is Timberlane Lodge, Park Rapids, Minn.

Cornell-Dubilier Electric Corp.—RAYMOND R. LEARY, sales manager of the Distributor Div., has been elected a vice president.

Square D Co.—MITCHELL P. KARTALIA, manager of the marketing division, has been elected a vice president.

AIR POLLUTION DESIGN ENGINEER

Thorough knowledge of electrostatic precipitation field. Expert in high voltage and small air cleaners design. Executive ability to head growing concern with opportunity in its participation. Submit resume in confidence. ELECTRONATOM, Room 3411, 30 Rockefeller Plaza, NYC 20, N. Y.

Look Inside...See Why...
FASTER COOLING with more efficient Vertical Air Discharge
30% MORE HUMIDITY REMOVAL with exclusive Cooling Maze Coil
LONGER PEAK PERFORMANCE with gas-cooled, Sealed-In-Steel Compressors
ALL-WEATHER PROTECTION with zinc-coated casing
SAVES 15% ON OPERATING COSTS with automatic twin-system cooling
ULTRA QUIET with ultra-efficient sound isolators

YORK IS THE BLUE CHIP AIR CONDITIONER LINE!

York is Worth More to Customers Who Buy It!

York believes that "price without value" is meaningless...that today's realistic consumer is interested first and foremost in true value and benefits...that delivery of a "full dollar's worth of quality for every dollar of purchase price" is the only foundation on which an enduring business can be built!

York is Worth More to Dealers Who Sell It!

Worth more because York's Blue Chip features are backed by Blue Chip national advertising plus Blue Chip *retail* advertising and *local* promotions! And York offers Blue Chip bonus certificates for buying *and* selling. They're redeemable for valuable merchandise awards or a fabulous York vacation trip!

More Than Ever Your FUTURE and FORTUNE Now Lies With YORK

YORK

YORK CORP. SUBSIDIARY OF BORG-WARNER CORP.

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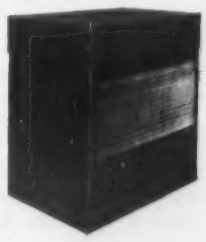
Air Conditioning, Heating, Refrigeration and Ice Equipment • Products for Home, Commercial and Industrial Installations



Air Distribution Requirements In Year-Round Air Conditioning

By Frank D. Klein, Chief Engineer, Governair Corp.

Calculating, Investigating The Effect of the Water-Cooled Condenser

Purpose of the water-cooled condenser is to remove the Total Heat absorbed by the refrigerant discharged from the compressor and thus by lowering its temperature at the pressure involved change the refrigerant state from vapor to liquid.

The efficiency by which any condenser accomplishes this dictates the efficiency of the compression cycle and the compressor in accomplishing its Volumetric Efficiency; we have learned that from the previous text.

This discussion will be limited to the horizontal shell-and-tube type devoted to the condensation of halogenated hydrocarbon refrigerants, that is R-12, R-22, etc.

When a shell-and-tube condenser is developed by a manufacturer, it is designed on the following heat transfer formulae:

$$U = \frac{1}{\frac{R}{h_i} + \frac{R}{h_f} + \frac{1}{h_e} + \frac{L}{K}}$$

where:

U is equivalent to the overall heat transfer coefficient, B.t.u./sq. ft./hr./°F. Which is based on the external surface and the mean temperature difference between the internal and external surface.

R is the ratio of internal surface to external surface.

h_i is the internal or water side film coefficient in B.t.u./sq. ft./hr./°F.

h_f is the Fouling Allowance on the water side, B.t.u./sq. ft./hr./°F.

h_e is the external or refrigerant side coefficient in B.t.u./sq. ft./hr./°F.

L is the tube wall thickness in inches.

K is the thermal conductivity of the tubing material in B.t.u./in./sq. ft./hr./°F.

The use of $\frac{L}{K}$ however is for use where only prime surface is employed. When secondary surface is used such as adjacent finning material either of the same material or different material modification must be made on the basis of the extended surface and material used.

With this as a basis for calculation, the manufacturer modifies it as required and develops the particular condenser. It is then subjected to "proof-tests" which involve proving the heat transfer coefficients involved of both the water and refrigerant sides and their relationship to ranges of fouling factors at selected and revealed rate of flow.

The efficiency of the water-cooled condenser (or any like condenser for that matter) depends, among other things, on the ratio, over a period of service, of the CONDENSABLE and NON-CONDENSABLE GASES —a point seldom considered by the average systems investigator, and seldom by the applicator and system designer.

A high ratio of non-condensable gases to condensables will contribute to abnormal head pressures, abnormal brake horsepower, a reduction in compressor and system capacity, and will contribute to premature breakdown of the oil charge. Thus the need and use for Oil Separators when required and dictated by system usage.

Non-condensables, of course, do not condense; they circulate with the refrigerant but by not condensing or liquifying like the refrigerant settle in the condenser-receiver section and form a blanket over the condensing surfaces.

Non-condensables come from outside the system (drawn into it through leaks, etc.), and from inside the system due to improper evacuation, from decomposition of the oil charge, moisture-oil mixtures, and the like. Such gases are a combination of Oxygen, Hydrogen, Chlorine, Nitrogen, Oil Vapors, Water Vapors, etc.

A test for non-condensables may be made by shutting the system down and allowing the water in the condenser to continue to flow freely until the refrigerant is at the same temperature as the water. If the condensing pressure remains higher than that corresponding to the temperature of the refrigerant, non-condensables are present.

ARCHITECT: JOHN F. STANN; CONSULTING ENGINEER: J. B. WYBLE; BUILDER: SAM EIG

Arkla-Servel Gas Air Conditioning keeps customers cool and operating costs down at the Motel Washingtonian

"While we were planning the Motel Washingtonian, we made a complete study of all potential equipment," states Sam Eig, builder and corporation president of this modern motel near Washington, D. C. "We knew we wanted gas for cooking and heating, and after our investigation, we found gas best for *all* operations."

For air conditioning, the specifications called for Arkla-Servel gas absorptive coolers. "With our Arkla-Servel units, we have no maintenance problems," add Mr. McKeever and Mr. Eig. "And we were able to tie into our heating system without worrying about special housing, vibration, or noise. Our one central system cools in summer, heats in winter to provide us with a quiet, year-round economical operation."

Gas absorptive cooling can put your commercial and industrial clients' heating plant on a year-round paying basis, too. For specific information, take advantage of the consulting services provided by your gas company. They have trained specialists who have been working with architects and engineers for years. Check the facts about gas and you'll see—modern gas air conditioning out-performs all other fuels. *American Gas Association.*

Check these facts about the 25-ton **Arkla-Servel** Cooler

- A compact unit, easy to install and light enough for rooftop installation.
- Costs are low for installation, operation and maintenance. No specially trained operating or maintenance personnel are required.
- Can be installed singly or in banks to fit any size installation.

ALUMALIFT

primarily designed for the installation and servicing of Air Conditioners in transoms

Total weight only 50 lbs.
Will raise unit from 36" to 108"

No servicing company can afford to be without one

Dealers and Distributors write for particulars

AMBLE 157-06 NORTHERN BLVD. Flushing, N. Y.

Refrigeration Problems
And Their Solution
(As Written by Paul Reed)

Water-Cooled Head Cause of Slugging?

Question:

We have some slugging in a compressor when it first starts. It has a water-cooled head and when the water valve sticks open as it sometimes does, the head gets pretty cold. I wonder if we could disconnect the water from the compressor head.

Answer:

Although it would be better to replace it with an air-cooled head, you probably could disconnect the water from the water-cooled compressor head without hurting anything. This is particularly true if it is an air conditioning installation, or even an ordinary medium temperature installation.

Water-cooled compressor heads are really quite helpful on low temperature jobs where the ratio of compression is high and/or where the suction gas to the compressor is super-heated a great deal. On such jobs the heat of compression is apt to be high, and the water-cooled head is helpful to keep the compressor body cool.

If the water valve sticks during the off cycle, the cold water going through the water-cooled head chills the entire compressor including the crankcase and the oil. As a result, the oil will absorb a great deal more refrigerant from the suction gas.

Then when the compressor starts, there is a sharp reduction of suction pressure and crankcase pressure, and the refrigerant boils up out of the oil, causing it to foam. Thus it is much more agitated than normally, and more of it gets into the cylinders.

It is preferable for the compressor body to be warm—at least, warmer than the evaporator—when the compressor starts.

COMPRESSOR OIL CHECK VALVE

Perhaps, however, you can cure your trouble in some other way. The compressor oil check valve may not be holding tightly closed like it should, during the first minute or two after the compressor starts.

If it stays closed, it holds crankcase pressure up, keeps the oil from foaming, and thus holds down slugging. The bleeder hole from the crankcase to the suction line allows the crankcase pressure to slowly reduce to equal suction pressure.

Obviously, the water valve should not stick open. There may be something wrong with it, so it should be opened, cleaned, and repaired or replaced. If the water is quite dirty, it would be well to use a good strainer in the water line ahead of the valve.

Another thing to check. By any chance, the water is not connected up wrong, is it? It should pass through the water valve first, then the condenser, and finally through the compressor head, although there are some arrangements that by-pass some of the water through the water-cooled head. At any rate it should not pass through the compressor head before the condenser.

A check valve in the refrigerant line from the condenser to the receiver is very helpful in a water-cooled unit, whether the compressor heads are water cooled or not. It helps the water valve to close quickly after compressor stops.

When the compressor stops, the condenser and receiver are both warm and the condensing pressure is high, thus the water valve stays open until the condensing pressure can get to the pressure at which the water valve is set to close.

The water continues to flow through the condenser, so the condenser is soon cool—cool enough that its pressure is reduced to the pressure at which the water valve closes.

In the meantime, no water is passing through the receiver, so its pressure stays high until finally it gets down to about room temperature. Since its pressure is greater than that in the condenser, the receiver pressure goes up into the condenser and thus keeps the condenser pressure up, and this keeps the water valve open.

A check valve in the refrigerant line between the receiver and the condenser keeps the high pressure in the receiver from getting back into the condenser and affecting the water valve.

In this way the water valve can cut off as soon as the water passing through the condenser gets the condensing pressure down to the pressure at which the water valve closes.

Otherwise, it has to wait until the receiver cools down; and in fact it may never get as cool as the condenser, making it just that much harder for the water valve to close.

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"Emergency Diagnosis, Repair of Hermetic Unit Electric Components," by John L. Zant, mail this ad with your name and address to: Air Conditioning, Heating & Refrigeration News, 450 W. Fort, Detroit 26, Mich.

Only 25¢ each.

WHAT . . WHEN . . WHERE
— A Guide to Coming Events of Interest

Home Improvement Products Show
Feb. 4-6, Coliseum, New York City.

National Association of Frozen Food Packers Convention
March 1-4, Conrad Hilton hotel, Chicago.

Gas Appliance Manufacturers Association
April 1-3, Americana hotel, Bal Harbour, Fla.

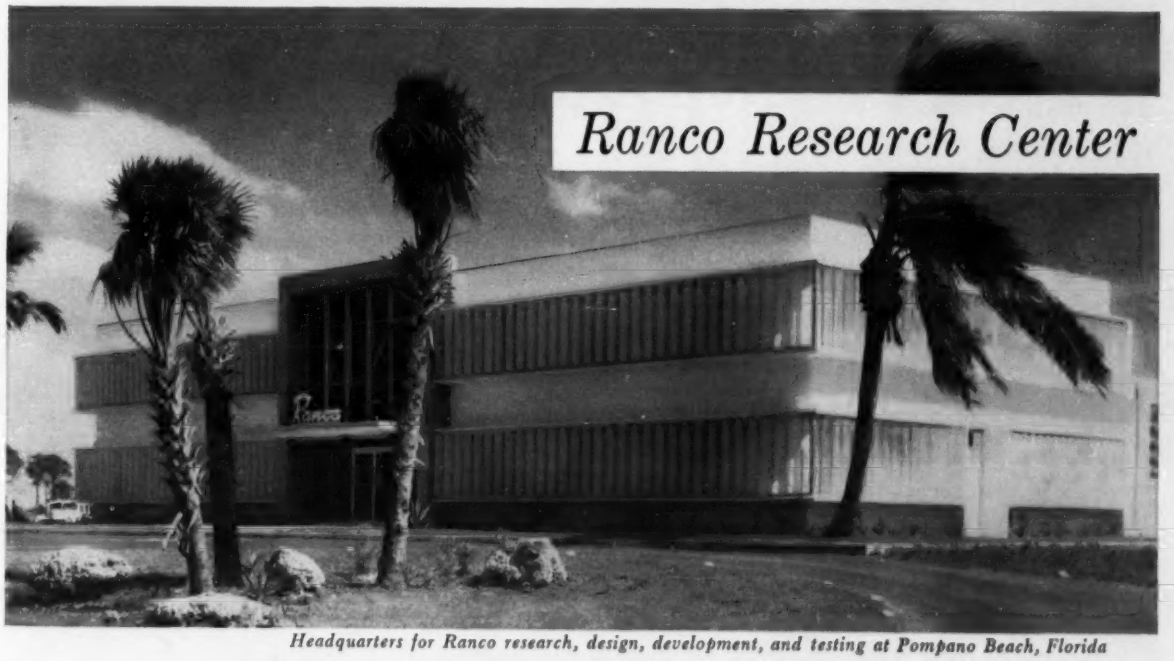
Edison Electric Institute
April 5-9, New Orleans.

Oil-Heat Institute of America
April 29-May 4, Seattle.

Air-Conditioning & Refrigeration Institute
May 3-6, The Homestead, Hot Springs, Va.

American Society of Heating & Air Conditioning Engineers
June 7-11, Vancouver, B. C.

American Society of Refrigerating Engineers
June 22-24, Lake Placid Club, Lake Placid, N. Y.



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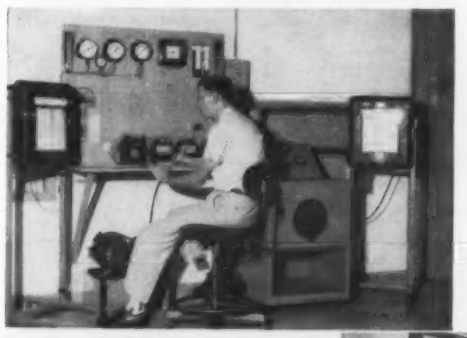
New Test Chamber—air conditioning and heat pump systems go through the paces in double-walled test chamber. Ambient temperatures and humidities from sub-zero to tropical range are simulated in outside room while desired temperature-humidity conditions are maintained inside.



Laundry Equipment Applications—performance test on timer-temperature control for automatic clothes dryer. As many as 48 individual tests on air conditioning, refrigeration and laundry equipment control systems are conducted simultaneously at the new Research Center.

Bring your control requirements to Ranco Research Center at Pompano Beach, Florida. Here are the people, experience and equipment to solve the toughest control assignments in air conditioning, heating, refrigeration and laundry equipment.

Ranco engineers will work closely with you through all necessary phases of research, design, development and testing. They will help you decide whether you need an entirely new design or modification of present designs. Almost 50 years of specialized research stands back of Ranco's work for you.

Talk over your control requirements and specifications with Ranco, and learn what Ranco Research can do for you. For further information, contact your Ranco representative or write Ranco Incorporated, Columbus 1, Ohio.

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TECHNICAL CENTER

By Frank J. Versagi, Technical Editor

How About Russian Refrigeration?

Western delegates to the Moscow meeting of Commissions 3, 4, and 5 of the International Institute of Refrigeration were greatly impressed with the things they saw. "Remarkable technical progress in refrigeration and other fields is very evident," according to one observer.

Such advances are greatly due to the great preliminary investment in education and research. There are four full-time schools of refrigeration in the USSR, according to a report in the English "Journal of Refrigeration."

The school in Moscow, the Refrigeration Faculty of the Bauman Technical High School, is for training design engineers. Students enter at the age of 17—after completing 10 years of schooling—and they study at the school for five years. After a basic first two years, students are allowed to specialize in refrigerating machinery, low temperatures, or gas compressors for the last three years.

The school produces about 75 graduates per year.

An operating engineers' school in Leningrad turns out about 400 engineers each year.

Keeping alert to world-wide developments, the Russian system makes provision for translating all major foreign articles into Russian. (It is an accident or side effect of history that the Russian language is based on the Cyrillic, rather than the Latin alphabet. At the time that Russia began to emerge as a major country, about 1,000 A.D., it picked Greek Orthodoxism while its neighbor, Poland, chose Roman Catholicism. One result of this choice was to cut Russia off from the mainstream of Western knowledge and culture for several hundred years.)

From the revolution in 1917 till about 1946, Russian refrigeration practices were primarily borrowed from abroad, since they were chiefly interested in expanding their facilities and less interested in innovations. Since that time, however, more thought is being given to means of doing the jobs better and using less of economic resources.

An example of such progress are the new designs of evaporative systems which use less material but give better control of room temperature. Another example would be the development of automatic control systems using semiconductor devices. Semiconductors are also the chief conponents of currently discussed thermoelectric refrigerating devices.

Word has it that the Russians are working with unusual refrigerant materials, such as sulfur hexafluoride.

Soviet scientists presented many of the 77 papers read at the international conference. Among the subjects discussed by the Russians at the conference were:

1. Review of the methods of design for quick freezing units. One feature of crosswise freezers in Russia is that air is passed alternately over the product and the cooling coils, so it is heated and cooled through a very small temperature range.

2. Fish freezing on board ship—discussion developed over a rigorous definition of the terms "quick frozen" and "freezing time." One Russian suggested a standard test on such a product as colloidal gel could be used in establishing definitions.

3. Air-cooled condensers for small refrigerating machines—graphs and equations on heat transfer, pressure drop.

4. Heat transfer and water vapor transfer to pipes with crimped helical fins.

5. Capacity control in finite steps.

Central agency for major research work is the Scientific Research Institute of the Refrigerating Industry. A staff of 330—185 of them scientists—conducts research into such subjects as machine testing, technical physics, dry ice, insulating materials, quick freezing, microbiology, refrigeration applications.

In Moscow, a compressor factory employing 2,000 turns out compressors, condensers, evaporators for ammonia and Refrigerants-12 and 22. The work week is 46 hours—8 on weekdays, 6 on Saturday; average pay is about $100 a month, although best workers are said to make twice this.

According to the "Journal" compressors are typified by a Model 2AB-15 with a bore of 150 mm and a stroke of 140 mm (about 6 by 5½ in.) which performs at 67% volumetric efficiency. Power input is about 33 hp.; coefficient of performance comes to 2.57.

Observers stated that automatic arc welding in the plant seemed to be quite satisfactory, but gas welding of risers on vertical tube evaporators was not of the same high quality.

Tours of cold storage plants, dairy plants, and non-refrigeration installations confirmed original impressions that the Russians are not significantly retarded in many major technologies.

PARKER-KALON DIVISION, *General American Transportation Corporation, Clifton, New Jersey*

For the first time in fastener history—Parker-Kalon introduces Self-tapping screws THREADED FULL TO THE HEAD . . . THE LAST THREAD ACTUALLY TERMINATING IN AN ANNULAR ORIFICE IN THE HEAD ITSELF . . . the new P-K *"Hi-thred"* fastener!

It's a completely new idea in fasteners—a screw that reduces annoying and costly slowdowns—holds securely *without spinning or slipping*—even in very thin gage metal sheets.

PARKER-KALON® "Hi-thred" Self-tapping Screws

Compare the new P-K® "Hi-thred" with any conventional fastener. See for yourself the incomplete last thread on ordinary screws. Then see how the revolutionary P-K "Hi-thred" is constructed to give you firm, dependable fastening right to the head of the screw.

You can obtain samples from your nearby Industrial Supply Distributor, or write direct to P-K. "Hi-thred" fasteners are available in Types "A" and "Z" in production quantities in non-countersunk head styles.

Look...it's threaded right into the head!

Another new fastener idea from Parker-Kalon

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but SAVE the EQUIPMENT!

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VAPCO SCALE REMOVER
The SAFE cleaner in powder form!

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For those who "Make Their Own" cleaner!

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To keep cleaned jobs really clean!

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To knock out algae and slime!

VAPCO Ice Machine Cleaner
Safe for all makes and models!

Complete literature on request or see your dealer—TODAY!

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MANUFACTURED BY The GARMAN Co.
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Here is the ideal editorial setting in which to present your entire 1959 product line!

The "Show Case" issue features complete coverage of the air conditioning field.

- Comparative specifications of *all* 1959 makes and models of packaged air conditioners.
- 1959 Marketing Method stories by AH&RN editors.
- Articles on new air conditioning applications.
- Complete presentation of new features found on 1959 model air conditioners, new installation techniques, outlines of successful sales promotions, service and installation short-cuts.
- Details from manufacturers about the features of and plans for their new lines.

Proclaimed "Issue of the Year" by Your Customers

The big "Show Case" issue of the NEWS gives comprehensive editorial coverage on 1959 packaged air conditioning equipment. To distributors and contractor-dealers, it is one of the most wanted and waited-for issues of the year! The "Show Case" issue provides them with the factual assistance they need to plan their 1959 selling program. That's why more manufacturers than ever will use this issue to display their complete product lines to this "buy-minded" audience. Why not take immediate steps to be sure you are represented? Reserve your space—enough to tell a complete story—today!

Closing date, February 25
Published, March 9

Extra Copies of the "Show Case" Issue Will Be Available — Order Today!

You'll want them for your entire organization

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10 - 49 extra copies	.75 ea.
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Philco Room Unit Line Features Front Panel That 'Tilts Down' for Easy Access to Filter

CHICAGO — Philco Corp.'s 1959 line of "fully guaranteed capacity" room air conditioners, shown here recently, are equipped with a "Tilt-Down" front for easy access to a new, permanent, washable filter.

All 1959 Philco "Noiseless" and "Texan" model room air conditioners will be equipped with this filter.

The company said it is easy to keep the permanent filter clean: "just wash and wring out like a sponge." The filter requires no spraying or other special treatment to maintain its filtering efficiency, according to Philco.

"The new 'Tilt-Down' feature of the front panel eliminates removing of bolts or other latches, since the front panel is hinged and simply swings forward to permit access to the filter," the company stated.

Philco said it guarantees the rated B.t.u. performance of each model. These ratings are based on Air-Conditioning & Refrigeration Institute and National Electrical Manufacturers Association industry approved ratings, it was noted.

Philco's 1959 "Compact" line features a series of "Noiseless" models which have decibel ratings that check out up to three times lower than accepted levels for noise, reported Jack Cherry, merchandise manager of room air conditioners.

Philco's negative ion air charger—the "Ionitron"—will be available as an accessory for all 1959 models.

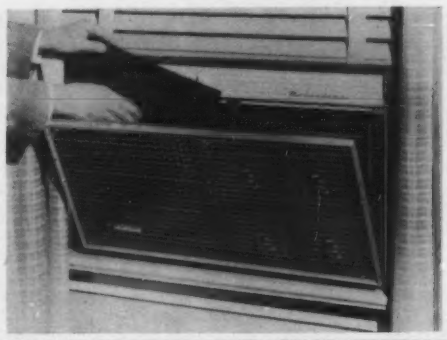
All models in the 1959 Compact series are in the identical size and style cabinet which measures 16⅜ in. high, 27 in. wide, and 21¼ in. deep.

B.t.u./hr. ratings, horsepower, and voltage for operation were announced as follows:

Model	Cooling Capacity in B.t.u./hr.	Hp.	Voltage	Suggested List Price
A 1094-11	11,000	1	230	$299.95
A 1292-2	10,100	1	115	339.95
A 1294-11	12,000	1	230	339.95
A 2094-11	14,400	2	230	399.95
A 1592-11	14,000	1½	230	369.95
A 2092-11	15,500	2	230	399.95

All models have four-way air vent grilles; thermostats, push-button controls, fresh air and pump out "which operate together for balanced air flow"; two-speed fan control; flush and adjustable mounting kits, file drawer chassis "for easy installation and service"; two-tone beige color scheme; all weather installation kit; and galvanized chassis and enclosure.

Philco also announced that new exterior styling and multiple-use features keynote design of its 1959 combination refrigerator-freezers.



PHILCO'S new permanent type filter for its 1959 room air conditioners is shown being removed. The "Tilt-Down" front panel makes access to filter easy, and the filter can be washed in the sink and squeezed dry or can be washed in an automatic washer.

A departure in refrigerator-freezer design has been achieved in one model by the use of a solid vertical accent panel on one side of the door, it was stated. The color panel, while an irridescent charcoal in coloring, blends with many colors, often "adopting" a major color in kitchen decor, it was said.

A second mark in Philco refrigerator-freezer exterior design is a slender, tapered aluminum door handle. It is used on both single-door and double-door models. On many models, as a convenience feature, the bottom of the handle is fitted with a built-in bottle opener.

A new feature for Philco this year is a "Lazy Susan" shelf. It can be pulled out from the left, from the right, fully rotated, or pulled straight out. It does not use a center post or side post for its action, the company said.

A new design treatment has been given Philco's exclusive 33° zone fresh meat locker, it was pointed out. The system ducts cold air into the meat locker to hold the temperature at the 33° zone.

Other features found in 1959 Philco refrigerator-freezers include a three-way shelf, a lift out shelf, sliding shelves, fully adjustable shelves which permit the user to arrange the main food compartment to individual storage needs. Philco's "Dairy Bar" in the inner door compartment is retained in the new models.

A new automated refrigeration system for the main food compartment of Philco's 1959 refrigerator-freezers was shown. The new system "not only compensates for all operating conditions, such as excessive heat and humidity or overloading, but has a new device which prevents frost build-up on the refrigerator compartment coils," the company said.

Philco introduced 10 models in its 1959 line, ranging in capacity from 8.1 to 15.8 cu. ft. and in price from $199.95 to $689.95.

Philco Announces 'He Man Holiday' Contest

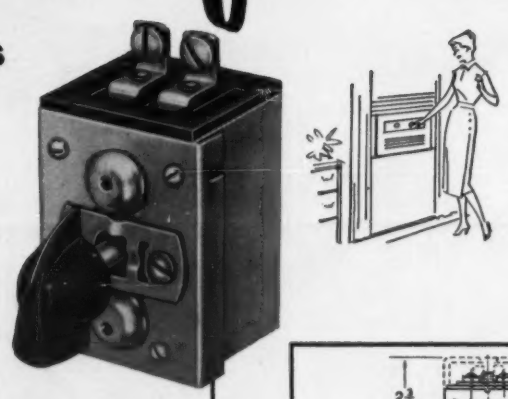
PHILADELPHIA—An eight-day all expense paid trip to Mexico for 1,000 Philco room air conditioner dealers, who earn it on a 1959 sales incentive contest, was announced recently by Philco Corp.

Known as Philco's "He Man Holiday" trip, the details of the program will be given to dealers at air conditioner open houses to be held by distributors, according to Owen H. Klepper, advertising and sales promotion manager of air conditioners.

The trips will begin at convenient points in the U. S.

Compact, low cost, high capacity

thermostats for cooling applications

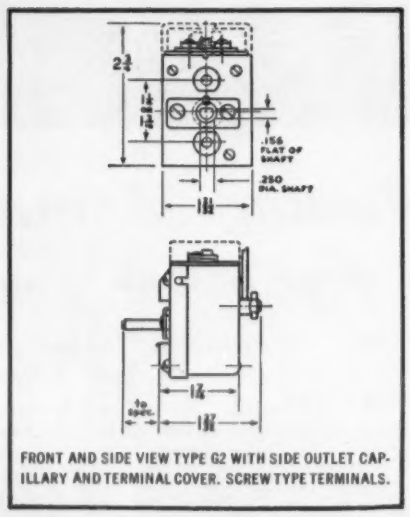


New Wilcolator Type G2 features improved, snap-action switch for higher contact ratings

With its improved, snap-action contact mechanism, the new Wilcolator G2 thermostat offers you much higher contact ratings than have hitherto been available in such a compact unit. Measuring only 2¾ x 1⅝ x 1⅞ in., it nevertheless has ample capacity for heavy duty appliances and medium industrial requirements.

Temperature differential is adjustable and can be factory set to your specifications. The G2 unit is available with Constant Cool position (motor load) where required. Contact mechanism not affected by vibration. No TV or radio interference. All steel parts heavily plated for corrosion resistance.

For complete information, write The Wilcolator Company, 1001 Newark Ave., Elizabeth, N.J. *In Canada:* Wilcolator (Canada) Ltd., 221 Evans Ave., Toronto 14, Ont. *Export Address:* Wilcolator, 1010 Schaff Bldg., 1505 Race St., Philadelphia 2, Pa.



FRONT AND SIDE VIEW TYPE G2 WITH SIDE OUTLET CAPILLARY AND TERMINAL COVER. SCREW TYPE TERMINALS.

SPECIFICATIONS

Standard temperature range: 55°F-95°F

Special temperature ranges: To customer's requirements

Switch mechanism: Single pole, double break, snap action

Motor ratings: 120 to 240 v a-c; running current—14 amp; locked rotor—60 amp

Mounting: Back of panel or in enclosure

Standard shaft: ¼ in. diam. flatted to .156 in.; length to customer's specifications

Terminals: Screw type, AMP or Arkles

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SCOTSMAN Super Cuber and Super Flaker

SCOTSMAN coin-operated ice vending machine that makes its own ice.

Scotsman Introduces 1959 Line--

(Concluded from Page 1, Col. 5)
unit for use in service stations, parking lots, supermarkets, small towns, boat marinas, camp and resort areas, or anywhere that bagged ice is purchased for public use.

"Made in three sections, the automatic dispenser will dispense either cubed ice, crushed ice, or both. The lower section is the refrigerated ice storage area. There are three storage compartments — one for the storage of bulk ice and two for storing bagged ice.

"The center section is also refrigerated, and is the dispensing section. Here the coin mechanism is located. The top section is the ice machine section and will accommodate any combination of either one, two, three, or four Scotsman ice machines.

"The ice manufactured in this section is gravity-fed to the lower bulk storage area. When both cubed and crushed ice are manufactured, a divider separates the storage area so ice is not mixed.

"The three sections are 6 ft. square interlocking sections, and may be assembled in various combinations and in any direction. This allows the owner-operator to have easy access to all features of the machine, and at the same time offers the customer 24-hour service."

The model DC-3 Super Cuber and model DF-4 Super Flaker have been designed as built-ins to meet the demand of those who desire an ice machine with small daily capacity, it was pointed out. Since they can be built in, they are also ideal for home use in the kitchen or recreation room, the company said.

The new model DC-3 Super Cuber will make up to 50 lbs., or 1,200 cubes daily. The compact unit occupies 3 sq. ft. of floor space. A heavily insulated stainless steel compartment stores the ice for ready use. The Super Cuber is finished in gray hammerloid with stainless front and trim. A Formica counter top is available for kitchen installation.

"The refrigeration system is easily serviced and consists of a hermetically sealed, ⅕-hp., 110-115-volt, single-phase, 60-cycle, refrigerating unit using 'Freon-12,' it was explained. "Operation is entirely automatic. Freezing and harvest cycles are controlled by the 'Scot-O-Matic' system."

The new model DF-4 Super Flaker is similar to the DC-3 Cuber in size, design, and storage facilities. This unit produces up to 100 lbs. of crushed ice daily. "It manufactures ice with the same type exclusive Scotsman patented freezing mechanism used in the larger Super Flaker," the company noted.

"There is only one moving part under refrigeration. The refrigeration system is a ⅛-hp., 110-115-volt, single-phase, 60-cycle a.c., hermetically sealed air-cooled compressor using 'Freon-12.'

"The addition of these new models now gives the consumer over 60 models of Scotsman ice machines to choose from when buying an ice machine."

The new products were first shown to Scotsman regional sales managers at a factory sales meeting in Albert Lea. They were shown and demonstrated to the distributor organization in Atlanta and in Denver. These meetings will be followed up by 120 regional dealer meetings throughout the country during February and March.

ASHAE Changes--

(Concluded from Page 1, Col. 4)
merger of the two engineering societies) will be held in Lake Placid, N. Y., June 22-24. This meeting was originally scheduled to be the annual meeting of the American Society of Refrigerating Engineers.

Proposed plans for a meeting to be held in November of this year in Atlantic City have been canceled. The semiannual meeting of the society will be held Feb. 1-4, 1960, in Dallas, in conjunction with the Second Southwest Heating and Air Conditioning Exposition.

This Exposition will be held in Dallas' new Memorial Auditorium, which is said to be in walking distance of the downtown hotels.

Present plans call for the Dallas exposition to be about half the size of the main show held last week in Philadelphia. Space for the Dallas exposition is being reserved on a first-come, first served basis.

'Bid-Shopping'--

(Concluded from Page 1, Col. 2)
eral contract bids are open.

"3. The bid tends to break down sound contracting standards established under state laws.

"4. The bid establishes an arbitrary, destructive and unrealistic 'five-foot' limit on mechanical specialty work."

Noting that a copy of H.R. 176 was enclosed with its bulletin, NAPC said members' opinions on the bill should be sent to the Washington NAPC office as soon as possible to assist officers and directors in their formulation of policy.

Also dropped into the House hopper was the NAPC-supported "Self-Employed Tax Relief Bill," this year introduced by Reps. Richard M. Simpson (R., Pa.) and Eugene J. Keogh (D., N. Y.).

The new bill has been given the same numbers—H.R. 9 and 10—used to identify it in the last Congress.

The bill provides for tax deferment of up to $2,500 in income when set aside for retirement purposes by self-employed individuals.

It is identical in form to the bill which passed the House last year and was reported to the Senate by the Senate Finance Committee. The bill died without a vote in the Senate.

Detroit Jurisdictional Agreement--

(Concluded from Page 1, Col. 3)
by UAW members, that new construction shall be done by members of the building trades unions, and that jobs in the "doubtful areas" shall be decided based upon past practices in accordance with definitions and procedures set forth in the pact.

For example, one section states:

"All construction work on new buildings on a new plant site, including the installation of new machinery and/or equipment, shall be performed by workers represented by the Detroit Building Trades Council. This shall include the first permanent installation of new machinery and/or equipment in said new building except that where old equipment and machinery is to be disassembled and moved to the new building and installation of old equipment and machinery shall be performed in keeping with pact practices, in which case the work may be performed by the owner's own employes, the employes of the contractor under agreement to the Building Trades Council or a combination of both."

Other sections cover new buildings on existing plant site, complete remodeling of existing building on unrelated existing plant sites, complete remodeling of buildings under production, plant rearrangement, and hiring and recall of seniority employes.

"It is recognized," the pact says, "that in the implementation and application of this agreement situation will arise not specifically covered by this agreement, or there may be questions raised as to the proper application of the agreement in view of past practices."

In order to deal with such matters, a committee will be established consisting of three members from the council and three from the UAW. The accord says this committee should meet at least once a month "for the purpose of maintaining friendly and cooperative relationships" between the UAW and the council "even though there may not be any specific problems to be considered."

The agreement is designed to implement at the local level the national agreement between the Industrial Union Dept. and the Building and Construction Trades Dept., AFL-CIO, dated Feb. 4, 1958. (Refusal of the Steelworkers to sign this agreement has rendered this pact virtually ineffective, it has been reported.)

In addition, the Detroit agreement "goes beyond the national agreement in providing for joint cooperation in the areas of organizing the unorganized and in making collective bargaining more effective for the membership of all unions," according to a statement by the council and the UAW.

In a report in a recent bulletin, the National Association of Plumbing Contractors called the agreement a "possibly significant" one, "pointing the way to settlement of some of the knotty 'contracting out" jurisdictional problems between the building trades and 'in-plant' workers."

In Miami Beach, Fla., where the AFL-CIO Building Trades Dept. was holding its mid-winter meeting, union leaders reportedly expressed optimism over the possibility that the Detroit agreement may lead the way to national amity.

Frick--

(Concluded from Page 1, Col. 3)
appeared during the negotiations."

At the annual shareholders' meeting later in the day, all board members of the firm were re-elected.

In his annual report, Benedict said there had been a definite improvement in sales in the first 10 weeks of the current fiscal year. He reported that air conditioning and refrigeration division sales were up 47% compared with a year ago and farm machinery division sales rose 73%.

During the 1958 fiscal year, total sales were off 6% and earnings declined 16%, he noted.

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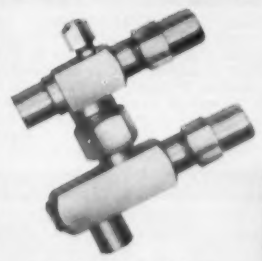
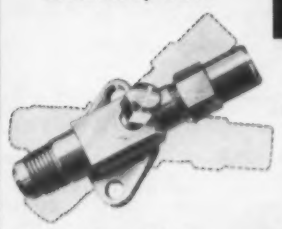


Break-Away Valve



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Diagnosing & Servicing Hermetic Compressors

(2) Nine Steps for Moisture Removal and Six Steps To Take If Refrigerant Flow Is Restricted by Something Else

Warranties of some companies on refrigeration systems are voided by the simple service error of charging the wrong refrigerant into a system—R-22 instead of 12, or vice versa. Other warranties may be voided by the addition to the system of any alcohol or liquid dehydrant.

These are examples of the down-to-earth information presented in this series of articles on the analysis and service of hermetic and semi-hermetic compressors.

Written by Tom Pendergast, vice president, Employers Insurance Service, Inc., with more than 30 years' experience in manufacturing, selling, and servicing refrigeration systems, these articles will cover such basic problems as low voltage, refrigerant restriction, moisture removal, compressor replacement, evacuating, and charging. They supply quick review for the experienced serviceman and a comprehensive introduction to service techniques for the novice.

MOISTURE REMOVAL

Small quantities of moisture can be removed from the refrigeration system by discharging all of the refrigerant from the system, evacuating it, installing a good drier, and recharging with new refrigerant as follows:

Evacuating the system at least twice after pressurizing it to 2-3 p.s.i.g. with the refrigerant indicated is good practice.

Note: It is *not* recommended that alcohol or any liquid dehydrant be added to any compressor. To do so will void the warranty of some companies.

1. Remove all produce from refrigerated space and allow complete system to warm up to room temperature. Infrared lights or an electric hair drier will speed up the operation.

2. Connect a compound gauge to the port on the suction line valve or charging valve and open the valve to the gauge.

3. If the gauge reading indicates a vacuum, refrigerant must be added to bring the pressure above zero pounds gauge, so that air and moisture will not be admitted when the system is opened.

4. With refrigerant pressure above zero pounds, loosen the discharge line flare nut at the motor compressor assembly, or some connection on the high pressure side of the system, and let the complete refrigerant charge escape. Close the opening and draw a deep vacuum on the system with a good vacuum pump.

5. Install a new drier in the liquid line. Be sure that the drier is the correct size for the installation or larger. On capillary tube installations, it is important that the drier be installed in such a position as to avoid trapping of liquid refrigerant. (Fig. 2.)

6. Be sure all connections are tight. Attach a charging line to the suction line valve and connect the line to a drum of the correct refrigerant with a compound gauge in the line. Loosen the charging line flare fitting at the suction line valve and crack the charging drum valve to purge the charging line. Tighten the charging line flare nut.

7. Leak test the complete system, using a Halide torch or an electronic leak detector. Eliminate any leaks that are found.

8. Operate the system intermittently for approximately four hours, stopping the compressor whenever the evaporator temperature falls below 32° F. This procedure will allow all of the free moisture that remains in the system to circulate through the drier and be removed.

9. The system may then be operated normally with the drier remaining as a permanent part of the system. However, if the system contained a considerable quantity of moisture it would be well to replace the drier after a few days of operation. If a wet drier is left on a system it may get so warm that the desiccant is reactivated putting the moisture back into circulation in the system, depending on the type of desiccant used in the drier.

RESTRICTED REFRIGERANT FLOW (CAPILLARY SYSTEMS)

A plugged or restricted strainer or capillary tube will affect the refrigeration system in much the same manner as moisture, i.e., long or continuous operation with little or no refrigeration and suction pressures that are much lower than normal.

However, a plugged or restricted condition caused by foreign material other than moisture cannot be overcome by stopping the condensing unit and allowing the system to warm up above 32° F.

If abnormal operation is definitely determined to be caused by foreign material other than moisture restricting the flow of refrigerant, the strainer and capillary assembly should be blown out or replaced as follows:

1. Remove the sealing plug or cap from the charging port on the suction side of the system and install the charging line on which a compound gauge has been mounted.

2. Open the valve to the gauge. If the gauge reading indicates a vacuum, refrigerant must be added to bring the pressure above zero pounds gauge, so that air and moisture will not be admitted when the system is opened, as described later.

3. With refrigerant pressure above zero pounds, disconnect the liquid line from the liquid line drier and cap the drier outlet. Disconnect the suction line from the motor compressor and immediately seal the suction fitting of the motor compressor assembly.

4. Attach a drum of anhydrous nitrogen to the suction line using a "T" arrangement and a 300-lb. pressure gauge.

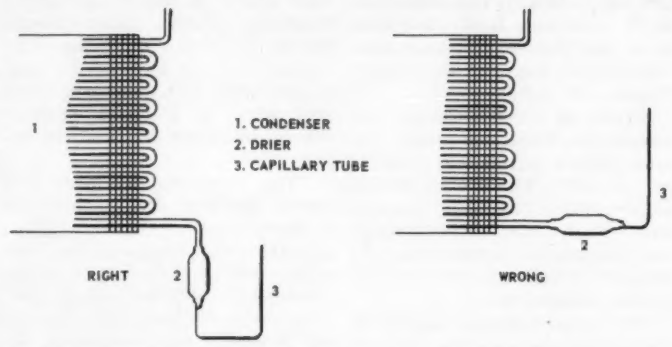
5. Wrap a cloth around the open end of the liquid line and slowly crack the valve on the drum of anhydrous nitrogen until the pressure reaches approximately 200 lbs. or to where the nitrogen flows freely through the capillary tube.

Warning: Be sure that you do not exceed the test pressure of the evaporator or low side. Under no condition should the pressure exceed 250 p.s.i.

6. If the restriction cannot be cleared by applying pressure and blowing out the low side, the suction line should be removed from the drum of anhydrous nitrogen and connected to the suction fitting of the motor compressor assembly. Do not remove the seal cap from the discharge fitting of the motor compressor assembly at this time.

Reconnect the liquid line so that when purging the system in reverse you include the receiver, if any, and the condenser. Before charging the system it is well to install a new liquid line drier.

Fig. 2—Mounting a Drier with Capillary Tube



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MANUFACTURER'S AGENTS for a complete line of air and water-cooled central air conditioning equipment, both commercial and residential. Desire agents already established in heating and air conditioning, calling on wholesalers with OEM accounts. Give details in first letter stating area covered and other lines handled. BOX A6177, Air Conditioning, Heating & Refrigeration News.

PENNSYLVANIA STATE factory sales supervisor needed by manufacturer. Salary, expenses and commission. Experience and proven record in wholesaling and retailing of refrigerated display equipment, store layouts and general knowledge of refrigeration required. Send complete details, photo and salary requirements to BOX A6178, Air Conditioning, Heating & Refrigeration News.

WANTED—DESIGN engineer to handle complete designing of heating, ventilating, air handling units, coils. Well known manufacturer located southern Wisconsin. Salary commensurate with ability and experience. BOX A6181, Air Conditioning, Heating & Refrigeration News.

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WANTED: MANUFACTURERS surplus, outdated or obsolete refrigeration items—expansion & water & shut-off valves, controls, relays, dehydrators, units, tubing fittings, etc. All sales on a cash close-out basis, large or small quantity. Write or call: COMMERCIAL CONTROLS CO., 257 East 3rd Street, New York 9, N. Y. ORegon 3-7210.

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FOR SALE—Pittsburgh Lectrodryer—model BAC-O with manual control. Four years old. Excellent condition. $395.000. TRUE MANUFACTURING CO., 9500 True Drive, St. Louis 14, Missouri.

MISCELLANEOUS

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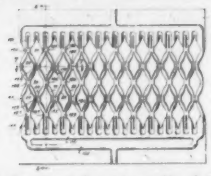
PATENTS

Week of Oct. 14 (Continued)

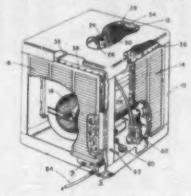
2,856,164. HEAT EXCHANGER. Richard F. Adams, Goshen, Ind., assignor to Olin Mathieson Chemical Corp., East Alton, Ill.



1. A heat exchange unit of the character described comprising a pressure unified support plate having a series of interconnected tubes extending therein in generally parallel relation with the plane of said plate and including a series of tube portions. . . .

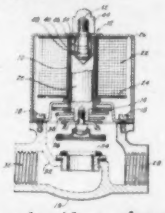
2,856,166. EVAPORATIVE COOLER AND BLEEDOFF MEANS THEREFORE. Albert B. Goettl, Phoenix, Ariz., assignor to International Metal Products Co., a corporation of Arizona.

1. In an evaporative cooler and bleed-off means therefore, the combination of: an evaporative cooler pad means; a blower for forcing air therethrough;



a sump below said pad means; a recirculating pump for pumping water from said sump to the upper portion of evaporative cooler pad means. . . .

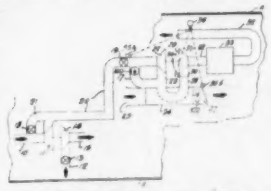
2,856,569. SOLENOID CONSTRUCTION. Marc C. Birge, Richmond Heights, Mo., assignor to White-Rodgers Co., St. Louis, Mo.



1. In a solenoid, a plunger guide sleeve of non-magnetic metal having an annular, external shoulder formed at one end thereof, a flange of magnetic metal on said sleeve, said flange having a central perforation which slidably receives said sleeve and a central, concentric recess in one side thereof surrounding said perforation. . . .

Week of Oct. 21

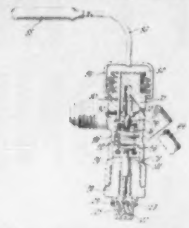
2,856,758. VARIABLE NOZZLE COOLING TURBINE. Glen Elwood Eggleston and Reino E. Luoto, Los Angeles, Calif., assignors to Douglas Aircraft Co., Inc., Santa Monica, Calif.



1. A system for controlling the temperature of an enclosure in an aircraft, comprising: a source of aerodynamic circumambient air; a conductor or flow-path connected to said source; air-compressing means having an inlet connected to said flow-path; heat-exchange means, including a passage for working air and a passage for worked-on air and an outlet for cooled, worked-on air; inlet means connecting said heat-exchange means to said flow-path of aerodynamic air. . . .

2,856,759. REFRIGERATING EVAPORATIVE APPARATUS. Daniel J. Barbulesco, Dayton, Ohio, assignor to General Motors Corp., Detroit, Mich.

Refrigerating apparatus including an evaporating means having an inlet and an outlet, guiding means for guiding a medium to be cooled into heat exchange relation with said evaporating means and away from said evaporating means, an expansion control located within said guiding means in

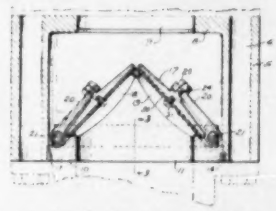


said medium connected to the inlet of said evaporating means for controlling the flow of refrigerant into the evaporating means. . . .

2,856,760. REFRIGERATION APPARATUS FOR AIR COOLING SYSTEMS AND THE LIKE. Leo N. Walter, Hammond, Ind.

1. In a refrigeration apparatus for air cooling systems and the like, an inner hollow member, a housing of heat insulating material substantially surrounding said inner hollow member, an intermediary hollow member substantially surrounding said inner hollow member and being surrounded by said housing, first forced air inlet means secured to said inner member and slidably mounted in the wall of said housing. . . .

2,856,956. PNEUMATIC CHECK VALVE. Michael Smolensky, Cleveland Heights, Ohio.

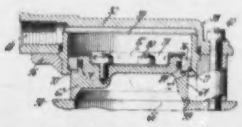


In an air check valve mechanism, an annular valve body having a cylindrical internal wall surface with aligned inlet and outlet ends, the inlet end consisting of an insert structure fitted in the inlet end of the body having a semi-spherical shaped valve wall with valve openings therein and an inlet port substantially equal in area to an outlet formed in the outlet end of the body. . . .

2,856,957. PRESSURE OPERATED VALVE. Charles J. McDowall and Robert J. Wente, Indianapolis, Ind., assignors to General Motors Corp., Detroit, Mich.

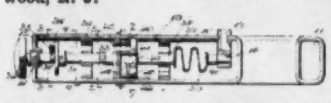
7. A compressor bleed-off valve comprising a housing having a valve seat and an actuating cylinder facing the valve seat with an inwardly projecting annular flange, a valve for the valve

Editor's Note: Patents described here have been selected from the "Official Gazette" of the United States Patent Office. They offer only a brief summary of each invention. In some instances only the first part of the digest is presented.



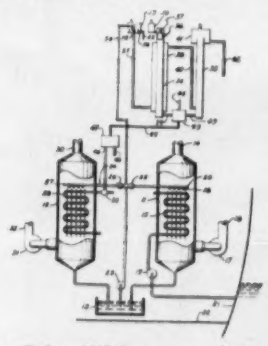
seat, an actuating piston integral with the valve extending through the flange and having an annular recess and a peripheral groove at the bottom of the recess. . . .

2,856,994. TEMPERATURE RESPONSIVE CONTROL. Murray Gunar, Lakewood, N. J.



1. A temperature responsive control comprising means defining a passageway for fluid, relatively movable valve members in said passageway each having at least one port therein, and conjointly operable means to control relative movement of said valve members comprising means including a temperature responsive element to move one of said valve members relatively to the other. . . .

2,857,015. DEHUMIDIFYING APPARATUS. Gilbert A. Kelley, Toledo, Ohio, and Herbert E. Parker, Quincy, Mass., assignors to Surface Combustion Corp., Toledo, Ohio.

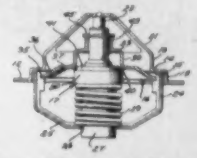


1. Dehumidifying apparatus comprising, in combination: wall means forming a contact chamber for contacting air to be dehumidified with hygroscopic solution; duct means for passing air to be dehumidified through said chamber. . . .

2,857,105. THERMOSTATIC VALVE. Harold B. Drapeau, Oak Park, Ill., assignor to The Dole Valve Co., Chicago, Ill.

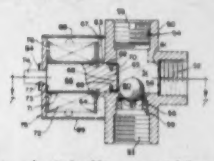
1. In a thermostatic valve of the class described, a housing having ports therein for the flow of coolant therethrough, a valve member within said housing controlling the flow of coolant therethrough. . . .

2,857,106. THERMOSTATICALLY CONTROLLED VALVE. Kjeld Porland, Sonderborg, Denmark, assignor to Danfoss ved ingenior Mads Clausen, Elsmark, Nordborg, Als Kingdom of Denmark, a Danish firm.



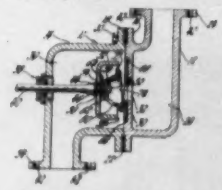
1. In a thermostatically-controlled valve having a valve housing providing a valve seat and a valve member movable into and out of engagement with said seat, a valve-actuating unit effective to control the position of said valve member. . . .

2,857,127. SOLENOID VALVE. Carl H. Millerwise, Detroit, Mich., assignor, by mesne assignments, to American Radiator & Standard Sanitary Corp., New York, N. Y.



1. An electrically operable valve, comprising a body member having a passageway therethrough, valve seat means in said passageway, a ball valve member of magnetic material seatable on said seats, said body member having a lateral opening above said seat means. . . .

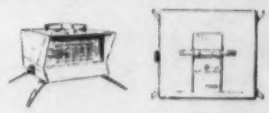
2,857,131. FLOW MODULATING VALVE. Edward N. Cole, Detroit, Mich., assignor to General Motors Corp., Detroit, Mich.



1. A valve comprising a valve body having an inlet passage and an outlet passage and defining a seat provided with a port connecting said passages, an imperforate rigid member and an imperforate resilient cup shaped member mounted within said rigid member. . . .

DESIGN

183,766. PORTABLE EVAPORATIVE COOLER. Gordon D. Petrie, Phoenix, Ariz., assignor to Wright Mfg. Co., Phoenix, Ariz.



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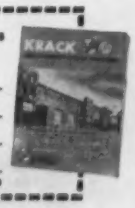
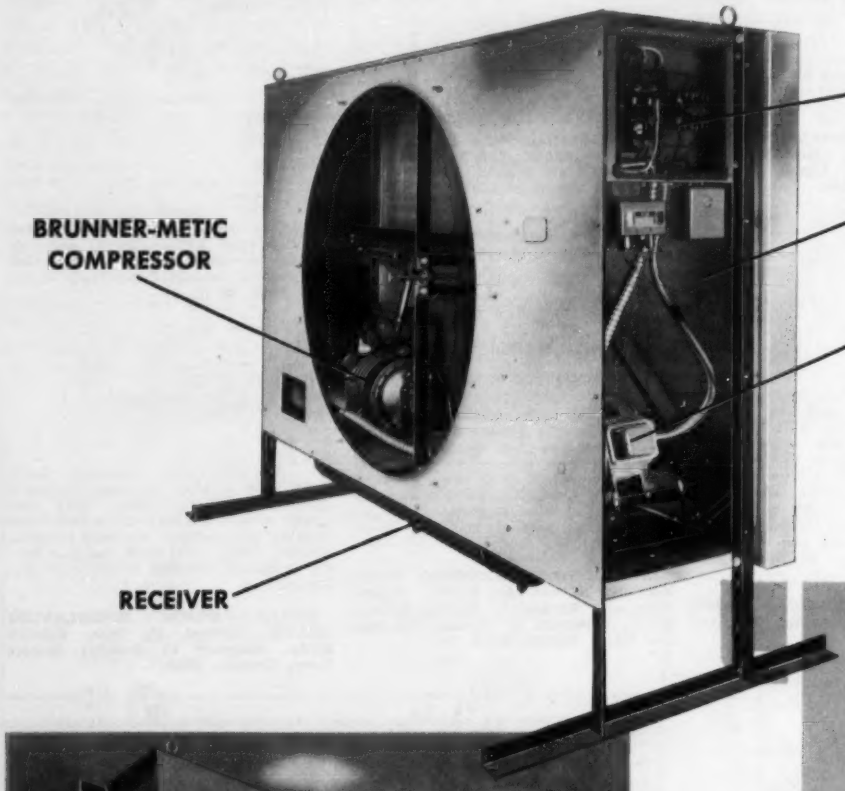
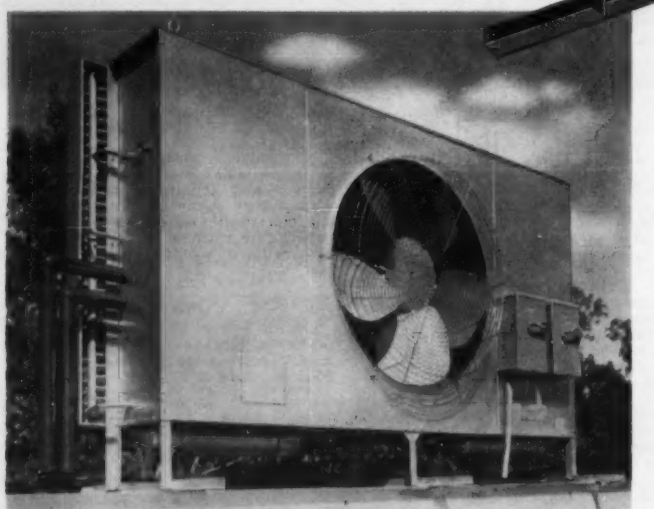


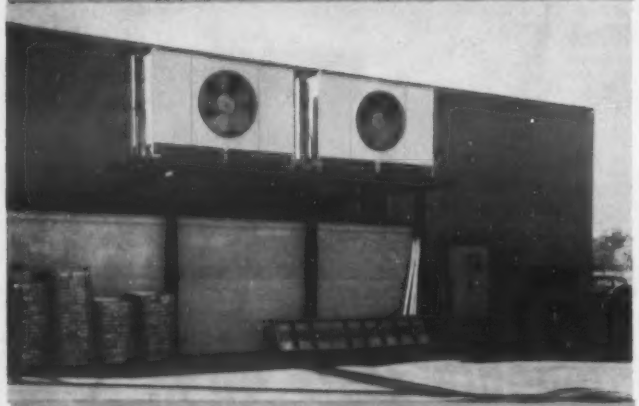
NEW CONCEPT IN BUILT-UP AIR CONDITIONING SYSTEMS



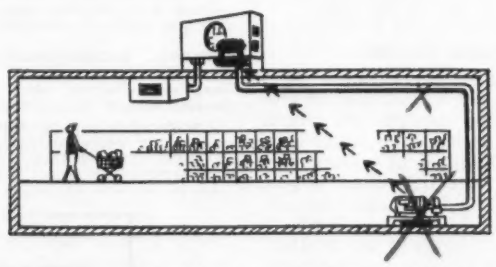
DUNHAM-BUSH 'LRCU' UNITS



Typical rooftop installation of LRCU unit.



Exterior installation of LRCU units, mounted on "I" beam frame.



By incorporating the compressor and receiver in the same casing as the remote air cooled condenser there are substantial savings in space and installation costs on built-up air conditioning systems.

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